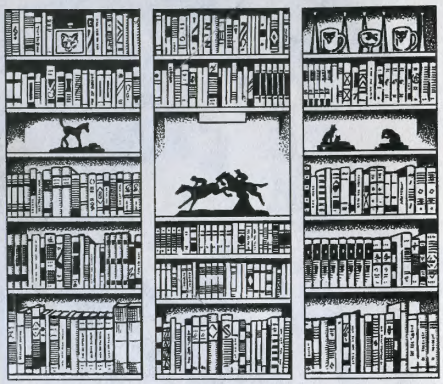


Ex Libris

JOHN AND MARTHA DANIELS

Pint
Shooting Boots. 1½ of boiled
Linseed oil ½ lb of Mutton
Suet 6 oz Beeswax & 4 oz Resin
Melt together over slow fire till well
mixed stir well up.

For removing Ticks from the Kennel

Dissolve half an ounce of corrosive sublimate in proof Spirits of Wine brush over the Walls &c & afterwards white wash.

Lice

White precipitate rubbed into the Roots of the Hair will speedily kill Lice. Care must be taken, to keep the Dog dry for two or three days & to brush the powder out after the respiration of a few hours.

Muzzle the Dog

Engd by T. Landseer from a Sketch by his Brother Edwin.

TOHO.

Pubd Oct. 1. 1813. by Sherwood, Jones & Co.

THE

SHOOTER'S COMPANION;

Or, a Description of POINTERS and SETTERS, &c. as well as of those Animals which constitute the Objects of Pursuit; of the

BREEDING OF POINTERS AND SETTERS,

The Diseases to which they are liable, and the Modes of Cure;

TRAINING DOGS FOR THE GUN;

OF SCENT;

And the Reason why one Dog's Sense of Smell is superior to another's;

THE FOWLING-PIECE

Fully considered, particularly as it relates to the Use of Percussion Powder;

OF PERCUSSION POWDER, AND THE BEST METHOD OF MAKING IT;

OF GUNPOWDER;

SHOOTING ILLUSTRATED;

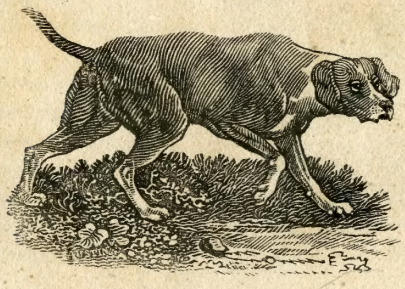
THE ART OF SHOOTING FLYING OR RUNNING

Simplified and clearly laid down; of

WILD FOWL AND FEN SHOOTING,

As well as every Information connected with the Use of the Fowling-Piece.

BY T. B. JOHNSON.



THIRD EDITION,

IMPROVED AND VERY CONSIDERABLY ENLARGED.

LONDON:

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1830.

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ILLUSTRATIONS.

Directions to Binder.

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INTRODUCTION.

If the inhabitants of these islands are remarkable for their attachment to the Sports of the Field, they are equally distinguished for the scientific manner in which they pursue them; nor is there, perhaps, any department of science which manifests more strikingly the progress of improvement, than the mode in which the chase is at present pursued in this country. The fowling-piece superseded the use of the net, not on account of its superiority in filling the bag, but because it afforded more elegant and more interesting diversion, and, at the same time, was much more gratifying to the feelings of the sportsman, inasmuch as it required a dexterity and skill which could not be called into action by the use of the net. Similar observations are applicable to hawking, which, although not altogether laid aside, is very rarely seen, and will, at no distant period, be utterly extinct. Hawking may be amusing; but, even when pursued with the

utmost success, is unaccompanied with that consolatory, pleasurable self-satisfaction which never fails to arise from the successful use of the fowling-piece.

Since the application of percussion priming to the discharge of the fowling-piece, it would appear as if this extraordinary engine had attained the acmé of perfection; but the improvement of the setting-dog or pointer has either not been well understood, or not pursued with that care and attention so indispensable to superiority or excellence. It is true, dogs of unquestionable merit are to be met with, but not generally; and even in these cases, the superiority of the animals seems rather the effect of fortuitous circumstances, than the fruits of any well-understood and well-arranged system.

In presenting the third edition of the present work to the public, I trust it will be found that nothing essentially necessary has been omitted. I have followed the diversion of shooting for more than thirty years, during the greater part of which I have bred numbers of pointers and setters, and have, in fact, omitted no opportunity of acquiring a knowledge of the various ramifications which, in the aggregate, may be said to constitute the delightful science of shooting. However, let it not be understood that I am vain enough

to suppose myself capable of imparting instruction to the experienced sportsman: it is the tyro to whom my observations are principally addressed, as well as to those who, though attached to the diversion, have not made it a particular study; while the veteran shooter may perhaps amuse an otherwise vacant hour in perusing the ex-cogitations of a brother sportsman.

I am very well aware that various books have, at different times, been ushered into the world on shooting, scarcely one of which is worthy of notice, if we except the splendid work of the Rev. W. Daniel, and the elegant publication of Colonel Hawker. The Rural Sports is an entertaining work, containing, amongst other things, a very great variety of interesting anecdotes; but it is, at the same time, remarkable for the ignorance of the author upon some of the most important subjects which he professes to elucidate; and, as far as relates to instruction, the work amounts to nothing. Colonel Hawker's book relates principally to shooting on the sea-shore, with guns of an enormous size, and in this respect may be valuable: he does not, however, altogether omit the pursuit of the partridge, upon which some of his remarks appear to be unique: he may fairly claim the original authorship of that masterly manœuvre of *running down partridges*

with charges of cavalry! However, as the colonel's work is before the world, it will not be necessary to make any further remarks upon it in this place.

In the following pages of this little volume, it will be found that I have classed each subject under a distinct head, in order to avoid confusion: I have also expressed myself in language so plain and simple as to render misapprehension impossible. Further, if, in the perusal, there should appear any thing like redundancy of expression, or repetition, let it be recollected, that many of the subjects are somewhat analogous, and that, therefore, something of the sort was unavoidable. One of my principal objects has been to make myself clearly understood; and in this, at least, I think it will be found that I have succeeded.

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SHOOTING.—Like most other sciences, shooting has experienced the effect of the superiority of modern knowledge; and, since the application of percussion powder, has perhaps attained the acme of perfection: but, though great attention has been paid to the breeding of setting dogs, it is, nevertheless, doubtful whether our present variety of these animals is superior to the dog which was formerly used for the net. At all events, the pursuit of feathered game has assumed a very different character: and the old diversion of hawking and netting has been superseded by the fowling piece, and almost forgotten.

THE DOG.

"Independent of the beauty of his form, his vivacity, force, and swiftness, the dog is possessed of all those internal qualifications that can conciliate the affections of man, and make the tyrant a protector. A natural share of courage, an angry and ferocious disposition, render the dog, in its savage state, a formidable enemy to all other animals: but these readily give way to very different qualities in the domestic dog, whose only ambition seems the desire to please; he is seen to come crouching along to lay his force, his courage, and all his useful talents, at the feet of his master; he waits his orders, to which he pays implicit obedience: he consults his looks, and a single glance is sufficient to put him in motion; he is more faithful even than the most boasted among men; he is constant in his affections, friendly without interest, and grateful for the slightest favours; much more mindful of benefits received than injuries offered; he

is not driven off by unkindness; he still continues humble, submissive, and imploring; his only hope, to be serviceable, his only terror, to displease; he licks the hand that has been just lifted to strike him, and at last disarms resentment by submissive perseverance.

More docile than man, more obedient than any other animal, he is not only instructed in a short time, but he also conforms to the dispositions and manners of those who command him. He takes his tone from the house he inhabits; like the rest of the domestics, he is disdainful among the great, and churlish among clowns * Always assiduous in serving his master; and, only a friend to his friends, he is indifferent to all the rest, and declares himself openly against such as seem to be dependent like himself. He knows a beggar by his clothes, by his voice, or by his gestures, and forbids his approach. When at night the guard of the house is committed to his care, he seems proud of the charge: he continues a watchful sentinel, he goes his rounds, scents strangers at a distance, and gives them warning of his being on duty.

The dog, thus useful in himself, taken into participation of empire, exerts a degree of superiority over all animals that require human protection. The flock and the herd obey his voice more readily even than that of the shepherd or the herdsman; he conducts them, guards them, keeps them from capriciously seeking danger, and their enemies he considers his own. Nor is he less useful in the pursuit; when the sound of the horn, or

* In the Spring of 1803, a young gentleman of talent and most amiable disposition, perished by falling from a precipice of the *Mountain Helvellyn*. His remains were not discovered till three months afterwards, when they were found guarded by his favourite terrier bitch.

Edwin Landseer, our faithful delineator of the dog, has produced an admirable painting of this subject.

"How long didst thou think that his silence was slumber?
How many long days and long nights didst thou number?
Ere he faded before thee, the friend of thy heart."—SCOTT.

the voice of the huntsman, calls him to the field, he testifies his pleasure by every little art, and pursues with perseverance, those animals, which, when taken, he must not expect to divide. The desire of hunting is indeed natural to him, as well as to his master, since war and the chase are the only employments of savages. All animals that live upon flesh, hunt by nature; the lion and the tiger, whose force is so great that they are sure to conquer, hunt alone and without art; the wolf, the fox, and the wild dog, hunt in packs, assist each other, and partake the spoil. But when education has perfected this talent in the domestic dog; when he has been taught by man to repress his ardour, to measure his motions, and not to exhaust his force by too sudden an exertion of it, he then hunts with method, and always with success.

As the dog is of the most complying disposition, so also it is the most susceptible of change in its form; the varieties of this animal being too many for even the most careful describer to mention. Climate, food, and education, all make strong impressions upon the animal, and produce alterations in its shape, its colour, its hair, its size, and in every thing but its nature. The same dog, taken from one climate and brought to another, seems to become another animal; but different breeds are as much separated to all appearance, as any two animals the most distinct in nature. Nothing appears to continue constant with them, but their internal conformation; different in the figure of the body, in the length of the nose, in the shape of the head, in the length and direction of the ears and tail, in the colour, the quality, and the quantity of the hair; in short, different in every thing but that make of the parts which serves to continue the species, and keeps the animal distinct from all others. It is this peculiar conformation, this power of producing an animal that can reproduce, that marks the kind, and approximates forms, that at first sight appear in no degree calculated for conjunction.

From this single consideration, therefore, we may at once pronounce all dogs to be of one kind; but which of them is the original of all the rest, which of them is the savage dog from whence such a variety of descendants have come down, is no easy matter to determine. We may easily indeed, observe, that all those animals which are under the influence of man, are subject to great variations. Such as have been sufficiently independent, so as to choose their own climate, their own nourishment, and to pursue their own habitudes, preserve their original marks of nature, without much deviation; and it is probable, that the first of these is even at this day very well represented in their descendants. But such as man has subdued, transported from one climate to another, controlled in their manner of living, and their food, have most probably been changed also in their forms; the dog has felt these alterations more strongly than any other of the domestic kinds; for, living more like man, he may thus be said to live more irregularly also, and, consequently, must have felt all those changes that such variety would naturally produce. Some other causes also may be assigned for this variety in the species of the dog; as he is perpetually under the eye of his master, when accident has caused any singularity in his productions, man uses all his art to continue this peculiarity unchanged; either by breeding from such as had those singularities, or by destroying such as happened to want them; besides, as the dog produces much more frequently than some other animals, and lives a shorter time, so the chance for its varieties will be offered in greater proportion.

But which is the original animal, and which is the artificial or accidental variety, is a question which, as was said, is not easily resolved. If the internal structure of dogs of different sorts, be compared with each other, it will be found, except in point of size, that in this repect they are exactly the same. This, therefore, affords no criterion. If other animals be compared with

the dog internally, the wolf and the fox will be found to have the most perfect resemblance; in fact, there is no perceptible difference: it is probable, therefore, that the dog which most nearly resembles the wolf or the fox externally, is the original animal of its kind: for it is natural to suppose, that as the dog exactly resembles them internally, so he may be near them in external resemblance also, except where art or accident has altered his form. This being supposed, if we look among the number of varieties to be found in the dog, we shall not find one so like the wolf or the fox, as that which is called the *shepherd's dog*. This is that dog with long, coarse hair on all parts except the nose, pricked ears, and a long nose, which is common enough among us, and receives his name from being principally used in guarding and attending on sheep. This seems to be the primitive animal of his kind: and we shall be still more confirmed in this opinion, if we attend to the different characters which climate produces in the animal, and the different races of dogs which are propagated in every country; and, in the first place, if we examine those countries which are still savage, or but half civilized, where it is most probable the dog, like his master, has received but few impressions from art, we shall find the shepherd's dog, or one very like him, still prevailing amongst them. The dogs that have run wild in America, and in Congo, approach this form. The dogs of Siberia, Lapland, and Iceland, of the Cape of Good Hope, of Madagascar, Madura, Calicut, and Malabar, have all a long nose, pricked ears, and resemble the shepherd's dog very nearly. In Guinea, the dog very speedily takes this form; for at the second or third generation, the animal forgets to bark, his ears and his tail become pointed, and his hair drops off, while a coarser, thinner kind comes in the place. This sort of dog is likewise to be found in the temperate climates in great abundance, particularly among those who, preferring usefulness to beauty, employ an animal that requires very little instruction to be

serviceable. Notwithstanding this creature's deformity, his melancholy and savage air, he is superior to all the rest of his kind in instinct; and, without any teaching, naturally takes to tending flocks, with an assiduity and vigilance that at once astonish, and relieve, his master.

In more polished and civilized places, the dog seems to partake of the universal refinement; and, like man, becomes more beautiful, more majestic, and more capable of assuming an education foreign to his nature. The dogs of Albany, of Greece, of Denmark, and of Ireland, are larger and stronger than those of any other country. In France, Germany, Spain, and Italy, the dogs are of various kinds, like the men; and this variety seems formed by crossing the breed of such as are imported from various climes.

The shepherd's dog may, therefore, be considered as the primitive stock from whence these varieties are all derived. He makes the stem of that genealogical tree which has branched out into every part of the world. This animal still continues pretty nearly in its original state among the poor in temperate climates; in the colder regions, he grows less and more ugly among the Laplanders; but becomes more perfect in Iceland, Russia, and Siberia, where the climate is less rigorous, and the people more civilized. Whatever differences there may be among the dogs of these countries, they are not very considerable, as they have all straight ears, long and thick hair, a savage aspect, and do not bark either so often or so loud as dogs of the more cultivated kind.

The shepherd's dog transported into the temperate climates, and among people entirely civilized, such as England, France, and Germany, will be divested of his savage air, his pricked ears, his rough, long and thick hair, and from the single influence of climate and food alone, will become either a matin, a mastiff, or

a hound. These three seem the immediate descendants of the former; and from them the other varieties are produced."

How far this last assertion of Buffon, that the shepherd's dog "from the single influence of climate and food alone, will become either a matin, a mastiff, or a hound," may be founded on fact, I am unable to decide; but I am much inclined to doubt it. All animals feel the influence of climate; and we have abundant proof that the very same species, even in latitudes not very widely dissimilar, exhibit marks of the difference of their situation: the lion, for instance, which is never found so high as the temperate latitudes (unless in a state of captivity) to whose very existence a burning sun, or a great degree of heat, seems indispensable, and whose form and manner appear little susceptible of change, is, nevertheless, marked like a graduated scale, with the varied effect of latitude. The lion of Mount Atlas is a small, dark tawney coloured animal, and, as he approaches the torrid zone, his colour not only becomes much lighter, but he increases in size, strength, and fierceness. The difference is still more manifest between the Esquimaux and the inhabitants of more southern latitudes. On this principle of reasoning, therefore, it requires no great strength of imagination to suppose, that the wild dog assumes various forms and colours according to situation; and that "the influence of climate and food alone," was not sufficient to produce those varieties above-mentioned, but that the natives of remote countries were also resorted to for this purpose.

It is a generally received opinion, that the wolf and the dog, as well as the fox and the dog, will engender, and that the offspring of such a conjunction is capable of procreation; which, if true, would clearly prove that these animals are merely accidental ramifications of the same stock: but I am almost equally inclined to doubt on this head; nor would any thing short of occular demonstration remove my infidelity upon a subject, which, however,

first appearances may seem to favour it, I am perfectly convinced has in general been inconsiderately asserted, and handed from one to another without experiment or reflection.

All the endeavours of M. Buffon to make them engender, as he assures us, were ineffectual. For this purpose, he bred up a young wolf, taken in the woods, at two months old, with a matin dog of the same age. They were shut up together without any other, in a large yard, where they had a shelter for retiring. They neither of them knew any other individual of their kind, nor even any other man but he who had the charge of feeding them. In this manner they were kept for three years; still with the same attention, and without constraining or tying them up. During the first year the young animals played with each other continually, and seemed to love each other very much. In the second year, they began to dispute about their victuals, although they were given more than they could use. The quarrel always began on the wolf's side. They were always brought their food, which consisted of flesh and bones, upon a large wooden platter, which was laid on the ground. Just as it was put down, the wolf, instead of falling on the meat, began by driving off the dog; and took the platter in its teeth so expertly, that it let nothing of what it contained fall upon the ground, and in this manner carried it off; but as the wolf could not entirely escape, it was frequently seen to run with the platter round the yard five or six times, still carrying it in a position that none of its contents could fall. In this manner it would continue running, only now and then stopping to take breath, until the dog came up, when the wolf would leave the victuals to attack him. The dog, however, was the stronger of the two, but as it was more gentle, in order to secure him from the wolf's attack, he had a collar put round his neck. In the third year, the quarrels of these ill-paired associates were more vehement, and their combats more frequent; the wolf, therefore,

had a collar put round its neck, as well as the dog, which began to be more fierce and unmerciful. During the two first years, neither seemed to testify the least tendency towards engendering, and it was not till the end of the third, that the wolf, which was the female, shewed the natural desire, but without abating either in its fierceness or obstinacy. This appetite rather increased than repressed their mutual animosity; they became every day more untractable and ferocious, and nothing was heard between them but the sounds of rage and resentment. They both, in less than three weeks, became remarkably lean, without ever approaching each other, but to combat. At length, their quarrels became so desperate, that the dog killed the wolf, which was become more weak and feeble; and he was soon after himself obliged to be killed, for, upon being set at liberty, he instantly flew upon every animal he met, fowls, dogs, and even men themselves, not escaping his savage fury.

The same experiment was tried upon foxes, taken young, but with no better success; they were never found to engender with dogs; and our learned naturalist seems to be of opinion, that their natures are too opposite ever to provoke mutual desire.

A young dog shudders at the sight of a wolf; he even shuns his scent, which, though unknown, is so repugnant to his nature, that he comes trembling to seek protection near his master. A dog that is stronger, and knows his strength, bristles up at the sight, testifies his animosity, attacks him with courage, endeavours to put him to flight, and does all in his power to rid himself of a presence that is hateful to him. They never meet without either flying or fighting; fighting for life and death, and without mercy on either side. If the wolf is the stronger, he tears and devours his prey: the dog, on the contrary, is more generous, and contents himself with his victory; he does not seem to think that *the body of a dead enemy smells well;* he leaves him where he falls, to serve as food for birds of prey, or

for other wolves, since they devour each other; and when one wolf happens to be desperately wounded, the rest track him by his blood, and are sure to shew him no mercy.

The dog, even in his savage nature, is not cruel; he is easily tamed, and continues firmly attached to his master. The wolf, when taken young, becomes tame, but never has any attachment: nature is stronger in him than education; he resumes with age, his natural dispositions, and returns as soon as he can to the woods from whence he was taken. Dogs, even of the dullest kinds, seek the company of other animals; they are naturally disposed to follow and accompany other creatures besides themselves; and even by instinct, without any education, take to the care of flocks and herds. The wolf, on the contrary, is the enemy of all society; he does not even keep much company with with those of his kind. When they are seen in packs together, it is not to be considered as a peaceful society, but a combination for war; they testify their hostile intentions by their loud howlings, and, by their fierceness, discover a project for attacking some great animal, such as a stag or bull, or to destroy some more redoubtable watch dog. The instant their military expedition is completed, their society is at an end; they then part, and each returns in silence to his solitary retreat. There is not even any strong attachment between the male and female: they seek each other only once a year, and remain but a few days together; they always couple in winter; at which time several males are seen following one female, and this association is still more bloody than the former: they dispute most cruelly, growl, bark, fight, and tear each other; and it sometimes happens, that the majority kill the wolf which has been chiefly preferred by the female. It is usual for the she-wolf to fly from them all with him she has chosen; and watches this opportunity when the rest are asleep.

In a state of nature, I am of opinion, the different species of quadrupeds continue faithful to their own particular tribe, and that various kinds never approach each other for the sake of conjunction; nor were the mare and the ass ever known to produce when wild, though in a state of domestication nothing is more common. Were it possible to reduce the wolf or the fox to that degree of subordination or civilization which so superlatively distinguishes the domestic dog, a race of mongrels might in all probability be obtained. But to accomplish such an object, infinite trouble would be indispensable, as well as perhaps ages of time; for wolves and foxes must be bred in a tame or domestic state before they could be expected to couple with the dog: and, should the tedious experiment eventually be crowned with success, it is very doubtful whether the mongrel race thus produced, would repay a thousandth part of the trouble.

With regard to the dogs of our country in particular, the varieties are very great, and the number every day increasing. And this must happen in a country so open, by commerce, to all others, and where wealth is apt to produce capricious predilection. Here the ugliest and most useless of their kinds will be entertained merely for their singularity; and, being imported only to be looked at, they will lose even that small degree of sagacity which they possessed in their natural climates. From this importation of foreign, useless dogs, our own native breed is, perhaps, degenerated, and the varieties now to be found in England are much more numerous than they were in the times of Queen Elizabeth, when Doctor Caius attempted their natural history. Some of those he mentions are no longer to be found among us, although many have since been introduced, by no means so serviceable as those which have been suffered to decay.

He divides the whole race into three kinds. The first is the generous kind, which consists of the terrier, the harrier, and

the blood hound; the gaze-hound, the grey-hound, the leymmer, and the tumbler; all these are used for hunting. Then the spaniel, the setter, and the water-spaniel or finder, were used for fowling; and the spaniel gentle or lap dog, for amusement. The second is the farm kind; consisting of the shepherd's dog and the mastiff. And the third is the mongrel kind; consisting of the wappe, the turnspit, and the dancer. To these varieties we may add at present, the bull dog, the Dutch mastiff, the harlequin, the pointer, and the Dane, with a variety of lap-dogs, which, as they are perfectly useless, may be considered as unworthy of a name.

The blood-hound was a dog of great use, and in high esteem among our ancestors. Its employ was to recover any game that had escaped from the hunter, or had been killed and stolen out of the forest. But it was still more employed in hunting thieves and robbers by their footsteps.

The land spaniel, which probably had its name from Spain, where it might have acquired the softness of its hair, is well known at present.

THE SETTER.

The Setter is the handsomest and perhaps the most generous of the canine race; but by what peculiar cross he originated, is not well known; and all conjectures on this head, though very interesting to the sportsman, are too much involved in uncertainty to be depended on. An ingenious friend is of opinion, that the setter was produced by crossing the talbot or blood hound with the small land spaniel or springer; and certainly the appearance of some of these animals seems to warrant such an idea; while others, equally good or superior, appear altogether

at variance with such a conjecture. Even if we admit this position, we are still unable to trace the primeval stock precisely, as the springer exhibits an almost endless variety, while its origin appears to be buried in oblivion.

It may be safely asserted that the setter or large land spaniel was known in this country long before the introduction of the present more fashionable dog, known by the appellation of the Spanish Pointer. The large land spaniel or English setter is not more eminently distinguished for the beauty of his form, than for his vivacity, unwearied perseverance, and sagacity, as well as for his generous and ardent attachment to man. His body is formed much like that of the greyhound, his countenance is very expressive, he has large pendent ears, a long, brushy, handsome tail, and he is covered all over with long wavy hair: his speed is very great; and as his feet are small, and much protected with hair, he has thus a decided advantage over his more delicate rival, and will run with indifference on hard ground, whether produced by frost or otherwise, when the Spanish pointer cannot be induced to move from the sportsman's heels. Also, while the latter, from the tenderness of his skin, manifests the utmost reluctance to enter a thicket, the setter will rush through the brambles with dauntless impetuosity.

At the commencement of the shooting season, when the weather is excessively hot, the setter is supposed to suffer more from thirst than the pointer; this is undoubtedly the case, and arises from the long warm coat of the former; and on the grouse mountains, in a *very dry season*, exposes this generous animal to great inconvenience; not that the pointer is by any means exempt from that excessive thirst which is uniformly produced by great exertion under a burning sun; but, as he is more thinly clad, and generally moves slower, so he is consequently less in want of water. But water is seldom very scarce on the moors.

Another supposition, which generally obtains belief, respecting the comparative merits of these two animals, is neither so reasonably nor so justly founded, namely, that the olfactory organs of the setter are inferior to those of his foreign rival. On this subject, it seems necessary, in the first place to observe, that the *best nosed* pointers are those which still retain much of the blood of the old English talbot or blood hound (as no doubt I think, can exist, that the Spanish pointer when first brought to this country was crossed with the talbot, or something of the hound tribe); and almost all those pointers of the present day, which have the best noses, are found to approximate in form and appearance, the old English blood hound, whose olfactory organs were no doubt superior to those of any other race of dogs which was ever known in these islands. The old English setter, which, many years ago, existed perhaps in the greatest possible perfection, has since undergone various crosses, which have not only injured the beauty of his appearance, but diminished that exquisite sense of smell, which is so essential to the delightful recreation of shooting. Dogs, *called setters*, are now to be met with of all forms, miserably deficient in the most prominent quality, *setting*, and generally very inferior to the modern pointer in every respect. Not one in a hundred of these mongrels is worth the notice of the sportsman; many of them it is utterly impossible to *break* or train, and even of those which are in some measure forced into subordination, very few become sufficiently steady to be fully depended on, or to render their services satisfactory. It is true, sometimes one is met with of approved worth; but the instances were so few which had come within my knowledge, that I despised what was called the setter altogether.

Speaking, however, on this subject to a friend, he remarked that he was no sportsman himself, but that his father had a breed of setters, which he believed would alter my opinion; and that he would procure me a specimen for that purpose. I paid but

little attention, aware that promises of this sort are very often neglected; but I did my friend injustice; for in the course of a few weeks, I received a whelp about six weeks old. Some short time afterwards, I happened to be walking across some fields near my residence, accompanied by a favourite pointer bitch; the whelp followed and kept close to my heels. As I had not gone out for the purpose of finding game, I devoted but little attention to my canine companions; nevertheless, after walking a few minutes, I missed the whelp, and on looking around, was much surprised and delighted at seeing him abreast of my favourite bitch, pointing, as well as she, with all the steadiness of a veteran. I walked to the spot, and was astonished at the earnestness of the whelp's countenance; and, had it not been for his whelpish appearance, from his manner, no person would have doubted that he had gone through all the requisite degrees of education, and had become a perfect master of the science. I sprung the birds, and permitted my whelp to enjoy the scent. He followed me next day on a shooting excursion; I lifted him over the ditches, and though he was not able to *gallop*, whenever the bitch came to a point, he also set as steadily as possible: nor was this all—happening to pass a small bush, with the whelp close to me (for he could not run) when the bitch was at a distance, he made a dead set: I regarded him for some time—I never saw a handsomer or a steadier point: and when I had satisfied myself with looking at what appeared to me little less than a phenomenon, I kicked the bush and up rose a pheasant. Thenceforth the whelp constantly accompanied me, whenever I went out for the purpose of shooting; as soon as he acquired sufficient strength, he began to run, set, and *backed* without the least instruction; he uniformly manifested acuteness of olfactory nerve, and great sagacity; but I am sorry to add, that it was only by incessant hard labour he could be kept steady.

He was bred by a Mr. Harley, who resided near Dumfries. He was liver coloured, about the middle size, and extremely handsome. I am inclined to think that this was the true bred English setter, the dog so celebrated when the net was as much in fashion, as the fowling-piece is at the present day.

Dogs the most distinguished for acute sense of smell have large broad heads.

THE POINTER.

The dog which is distinguished by the appellation of the Pointer is of foreign origin, and is known not only in Spain, but in Portugal, and also in France, with but slight difference of form. Those pointers which I have seen direct from Spain are heavy and clumsily formed; those from Portugal are somewhat lighter; while the French breed is remarkable for a wide furrow which runs between the nostrils, and which gives to the animal's countenance a very grotesque appearance. They all, however, exhibit a very different form and character to the setter; they are thick and heavy creatures, with large chubby heads, long pendent ears, and covered with short smooth hair; nor do they possess that generosity of disposition, which is so distinguishing a trait in the character of the setter; on the contrary, they are often ill-tempered and snappish; and, in fact, are good for little in this country till they have been crossed with the more generous blood of these islands. Yet the conjunction of the setter and the pointer is by no means advisable, since the production generally unites the worst qualities of the two without any of those requisites perhaps for which the two breeds are most highly prized. Dogs thus produced, are for the most part headstrong and turbulent, require excessive correction, and are rarely brought to that steadiness

which marks the distinct breeds. It is true, sometimes a first-rate dog is produced between a setter and a pointer; but it rarely happens: the cross at best is never to be depended on, and for one good dog thus obtained, there will be found twenty very indifferent or bad ones on an average; while not the least dependance can be placed on the offspring of the very best dogs thus propagated. Excellent pointers have been produced by the fox-hound and the Spaniard; and in all probability the fox-hound had much of the talbot blood; nor have I the least hesitation in supposing, that the best pointers would be those bred from the talbot and the Spaniard, at least as far as relates to sense of smell; but since the former is nearly, if not altogether, extinct, and as all hounds have been produced from him, and still retain more or less of his blood, the nearer we can approach him the better: therefore the deep-flewed hound is to be preferred; the kibble, and even lighter kinds of hounds, may answer the purpose; but what is thus gained in speed is not a sufficient compensation for unsteadiness and an inferior nose. The Spaniard, however, from having been judiciously crossed, has arrived at a degree of perfection so as to leave little to be desired on this head; and excellent pointers are to be met with in most parts of England. They differ from the setter inasmuch as when they have approached sufficiently near the game they stand erect; whereas the true bred setter will either sit upon his haunches, or lie close to the ground—generally the latter. It may be also very justly remarked, that though a particular strain of either the pointer or setter may have arrived at a great degree of perfection; yet, if continued on the same strain for a length of time, it will degenerate; in order, therefore, to prevent that dwindling or falling off which would inevitably take place, recourse must occasionally be had to other strains; that is, to dogs of the same kind, but bred in different parts of the kingdom, taking care to choose animals of undoubted merit from which to breed; and in order to

avoid the possibility of being misunderstood, I must observe, that in thus giving directions for preserving the requisite qualities in perfection, I do not mean, in this case, that recourse should be had to the talbot, fox-hound, or any other kind of dog used for a distinct purpose, but merely to procure a pointer (either sire or dam) from a distant part of the country, if pointers are the object; and the same in respect to setters.

Pointers often suffer much from sore feet; considerable difference, however, will be found amongst them in respect to their feet. I have generally found white footed dogs much more tender in this respect than those whose feet are of a dark colour.—Black, brown, or any dark-coloured pointers have generally better feet than white or light-coloured dogs.

Pointers are sometimes used with bells round their necks in cover shooting. When the dog sets, the ringing ceases, and the shooter proceeds to the spot. I do not recommend the practice.

THORNTON'S POINTER.

"The most remarkable dog of this class (says Daniel) not only as to the price he sold for, but likewise for the singular mode of finding his game, was *Dash*, a dog belonging to Colonel Thornton; he had a close cross from the fox-hound, and was sold to the late Sir R. Symons for one hundred and sixty pounds' worth of Champaign and Burgundy, a hogshead of claret, an elegant gun, and a pointer; with a stipulation, that if any accident befel the dog, that might render him unfit for hunting, he was to be returned to the Colonel at the price of fifty guineas. The extraordinary style of Dash's ranging upon the moors, and his superior manner of finding; and which, when hunting in inclosures for partridges, shewed an instinct almost incredible, by

constantly going up to the birds without any previous quartering of the ground, added to his steadines in *backing* other dogs, rendered him by far the best pointer that perhaps was ever bred. Dash had the misfortune to break his leg, and was sent to Col. Thornton, who paid the fifty guineas, according to agreement, and considered him, in that state, a great acquisition as a stallion to breed from."—His stock, or produce, however, are not mentioned; and I feel a conviction, that, on account of cross-breed, he was a pointer by no means advisable as a stallion.

THE RUSSIAN POINTER.

Some years since, a rough-coated dog, of the water spaniel breed, was introduced to the notice of the sportsmen of this country, under the denomination of the *Russian Pointer*. Whether he be originally Russian is very doubtful; but he is evidently the ugliest strain of the water-spaniel species; and, like all dogs of this kind, is remarkable for penetrating thickets and bramble bushes, runs very awkwardly, his nose close to the ground (if not muzzle-pegged), and frequently springs his game. He may be taught to *sét*, and so may a terrier, or any dog that will run and hunt, and even pigs, if we are to believe the story of Sir Henry Mildmay's black sow; but to compare him with the animals which have formed the subjects of the two preceding chapters, would be outrageous: nevertheless, I am not prepared to say, that out of a hundred of these animals, one tolerable could not be found; but I should think it madness to recommend the *Russian pointer*, to sportsmen, *unless for the purpose of pursuing the coot or the water-hen!*

THE SPRINGER.

This beautiful little animal is too well known to need description. There is a great variety of this species, all remarkable, however, for their cheerful activity. They are not calculated for an extensive range; and are therefore of no use either for grouse or partridge shooting; but are very serviceable in strong covers in the pursuit of the pheasant or wood cock, and give notice of their approach to the object by a sort of *whimper*, which increases to a bark as the game springs. They are affectionate and docile, and easily broken or trained; in fact, their whole system of education consists of nothing more than merely to keep them tolerably close to the sportsman; since, if they are suffered to ramble out of gun-shot, the game rises at too great a distance, the object is thus defeated which they were intended to promote, and a mortification, much better felt than described, must inevitably ensue. They are evidently of the spaniel species, and frequently called the small land spaniel. Their beauty and affectionate disposition will always excite attention. However, if sporting on a grand scale, and the utmost pinnacle of perfection, are the objects to be attained, let dogs be kept for the moors or grouse alone, others for the partridge, and the pheasant and the woodcock consigned to the small land spaniel or springer.

THE RETRIEVER.

In cover shooting, and particularly since the *battu* system has been introduced, a *Retriever* has been found essentially serviceable. A water spaniel is perhaps as well calculated for this purpose as any of the ramifications of the dog. The reader need scarcely be informed that the duty of the animal in question, is to fetch the game when killed.

THE GROUSE.

It has been already shewn to what an endless variety the breed of the dog may be extended, and the same remark will apply, in a greater or lesser degree, to all animals reclaimed from a state of nature and domesticated by man; a pigeon, for instance, may be bred to assume any shape or colour; but the case is widely different with all other animals which preserve their native freedom, and thus we find a grouse, a partridge, or a hare, always the same, or at least the deviations are so extremely rare, that they are regarded as phenomena, and are either the effect of disease, or appear as a fantastic whim of nature. Yet, if we are to believe Cowper, hares, when reduced to a state of familiar captivity, are easily recognised by the varied aspect or countenance, which each individually offers to minute and constant observation; but, at all events, nature when left to herself seems to proceed in one regular course, and wild animals uniformly exhibit the same general appearance, whatever nice distinctions may be discovered by that minute and repeated observation which can only be obtained by familiar acquaintance.

The Grouse and its Affinities.—The cock of the wood, the black cock, or black grouse, the red or common grouse, and the ptarmigan, or white grouse—these are all birds of a similar nature, and chiefly found in heathy mountains and piny forests, at a distance from mankind. They might once indeed have been common enough all over England, when a great part of the

country was covered with heath ; but at present their numbers are thinned.

The cock of the wood often weighs near fourteen pounds; the black grouse, of which the male is all over black, and the female a sort of brown grey colour, is about the size of a hen ; the common grouse is about half as large again as a partridge, and its colour something like that of a woodcock, but redder; the ptarmigan is still somewhat less, and is of a grey colour. They are all distinguishable from other birds of the poultry kind by a naked skin of a scarlet colour, above the eyes, in the place and of the figure of eye-brows; except the cock of the wood, which does not exhibit the characteristic just mentioned.

It seems to be something extraordinary, that all the larger wild animals of every species choose the darkest and the inmost recesses of the woods for their residence, while the smaller kinds come more into the open and cultivated parts, where there are more food and more danger. It is thus with the birds I am describing : while the cock of the wood is seldom seen, except on the inaccessible parts of heathy mountains, or in the midst of piny forests, the grouse is found in great numbers in the neighbourhood of corn fields, where there is heath to afford retreat and shelter. Their food too somewhat differs ; while the smaller kind lives upon heath blossoms, cranberries, corn, &c. the larger feeds upon the cones of the pine tree ; and will sometimes entirely strip one tree, before it offers to touch those of another, though just beside him. In other respects, the manners of these birds are the same; being both equally simple in their diet and licentious in their amours.

The cock of the wood is, as was said, chiefly fond of a mountainous and woody situation. In winter he resides in the darkest and inmost part of the woods; in summer he ventures down from his retreats, to make short depredations on the farmer's

corn. The delicacy of his flesh, in some measure, sets a high price upon his head; and as he is greatly sought after, so he continues, when he comes down from the hills, always on his guard. Upon these occasions he is seldom surprised: and those who would take him, must venture up to find him in his native retreats.

The cock of the wood is well exhibited by Redinger, in some of his clever prints.—These *Royal Birds* (so they are called in the Continental Game Laws) are not allowed to be shot in most parts of Germany, but with the rifle and a ball of from 60 to 90 to the pound. In Bohemia their gizzards generally contain a very fine sort of gravel, called the Bohemian Diamond; which, when cut like other diamonds, looks very neat. It is far from uncommon to see sportsmen there, wear rings set with such, taken from a cock of the wood's gizzard, with one of his claws as a centre.—*De Berenger.*

The cock of the wood, when in the forests, attaches himself principally to the oak and the pine tree; the cones of the latter serving for food, and the thick boughs for a habitation. He even makes a choice of what cones he shall feed upon; for he sometimes will strip one tree bare before he will deign to touch the cones of another. He feeds also upon ants' eggs, which seem a high delicacy to all birds of the poultry kind; cranberries are likewise often found in his crop; and his gizzard, like that of domestic fowls, contains a quantity of gravel, for the purpose of assisting his powers of digestion.

At the earliest return of spring, this bird begins to feel the genial influence of the season. During the month of March, the approaches of courtship are continued, and do not desist till the trees have all their leaves, and the forest is in full bloom. During this whole season, the cock of the wood is seen at sunrise and setting, extremely active, upon one of the largest branches of the pine tree. With his tail raised and expanded like a fan,

and the wings drooping, we may view him strutting backward and forward, his neck stretched out, his head swollen and red, and making a thousand ridiculous postures: his cry upon that occasion is a kind of loud explosion which is instantly followed by a noise like the whetting of a scythe, which ceases and commences alternately for about an hour, and is then terminated by the same explosion.

During the time this singular cry continues, the bird seems entirely insensible to every kind of danger; whatever noise may be made near him, or even though fired at, he still continues his call. Upon all other occasions, he is the most timorous and watchful bird in nature; but now he appears entirely absorbed in his instincts; and seldom leaves the place where he first begins to feel the accesses of desire. This extraordinary cry, which is accompanied by a clapping of the wings, is no sooner finished, than the female hearing it, replies, approaches, and places herself under the tree, from whence the cock descends to impregnate her. The number of females that, on this occasion, resorts to his call is uncertain; but one male generally suffices for all.

The female is much less than her mate, and entirely unlike him in plumage, so that she might be mistaken for a bird of another species: she seldom lays more than six or seven eggs, which are white and marked with yellow, of the size of a hen's egg; she generally lays them in a dry place, and a mossy ground, and hatches them without the company of the cock. When she is obliged, during the time of incubation, to leave her eggs in quest of food, she covers them up so artfully, with moss or dry leaves, that it is extremely difficult to discover them. On this occasion, she is extremely tame and tranquil, however wild and timorous in ordinary. She often keeps to her nest, though strangers attempt to drag her away.

As soon as the young ones are hatched, they are seen running with extreme agility after the mother, though sometimes they

are not entirely disengaged from the shell. The hen leads them forward, for the first time, into the woods, and shews them ants' eggs, and the wild mountain-berries, which, while young, are their only food. As they grow older, their appetites become stronger, and they then feed upon the tops of the heath and the cones of the pine tree. In this manner they soon come to perfection: they are a hardy bird; their food lies every where before them, and it would seem that they should increase in great abundance. But this is not the case; their numbers are thinned by rapacious birds and beasts of all kinds; and still more by their own salacious contests.

As soon as the clutching is over, which the female performs in the manner of a hen, the whole brood follows the mother for about a month or two; at the end of which the young males entirely forsake her, and continue in great harmony together till the beginning of spring. At this season they begin, for the first time, to feel the genial access; and then adieu to all their former friendship! They begin to consider each other as rivals; and the rage of concupiscence quite extinguishes the spirit of society. They fight each other like game cocks; and at that time are so inattentive to their own safety, that it often happens that two or three are killed at a shot. It is probable, that in these contests, the bird which comes off victorious, takes possession of the female seraglio, as it is certain they have no faithful attachment."

The above account is copied from Goldsmith, nor will I pledge myself for its accuracy. What he calls the cock of the wood is certainly unknown in England: the bird to which he alludes is occasionally met with, I believe, in some parts of Scotland; but whether so large as to weigh fourteen pounds is doubtful. It is a lamentable circumstance that little dependance can be placed upon our natural histories, as the historians themselves appear to have no more knowledge of the subject than what they gained

in their study from the perusal of anterior works upon the same subject; therefore, their descriptions can only be relied on, where they happen to be corroborated by practical knowledge; while, strange as it may appear, some of the most important subjects (to the sportsman at least) are noticed in so slight and confused a manner as to afford little or no information upon the matter. Such is precisely the case with that beautiful bird, the black cock, or black grouse, also frequently distinguished by the appellation of black game. The black cock is one of the finest birds offered to the attention of the sportsman: he is the first of the game species known in this kingdom, and is to be met with only in a few places in England, and not in great abundance. The male generally weighs about four pounds, of a beautiful black colour, with the tail forked in a peculiar manner. The female is much less than the male, and altogether different in plumage; her colour is brown, and from her appearance she might be easily mistaken for a bird of a different species. These birds are found in tolerable abundance in some parts of the Highlands of Scotland, as well as on the borders of that country; and are also to be met with on the hilly parts of Derbyshire and Staffordshire, in Devonshire, and also in the New Forest, in Hampshire. They breed on the heathy moors; but are generally found in the vicinity of woods and corn fields, where they frequently feed. The shooting season for black game commences on the 20th August. They *lie* remarkably well at the beginning of the season, but soon become very wild, and will often fly to a great distance.

Their food is various, but principally consists of mountain fruits and berries, and in winter the tops of heath, as well as the cones of the pine tree, alder buds, and corn where they can procure it. It is somewhat remarkable that cherries and peas are fatal to these birds. They perch and roost in the same manner as the pheasant.

The *red grouse*, or *moor game*, is found in most of the moun-

D GROUSE.

OF THE WOOD

pheasant.

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RED GROUSE.

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COCK OF THE WOOD.

tainous districts of the United Kingdom: I will state a few particulars respecting them:—

The grouse is a bird which is found in different parts of the globe, and of which there are various kinds. However, as this volume is intended not for the naturalist, but the sportsman, it will be necessary to describe only those which breed in Great Britain, and that kind in particular, which is the general object of pursuit, and which is known by the name of *red grouse*, or *moor game*.

These birds are larger than the partridge; the male weighing about nineteen to twenty-four ounces. The bill is black, the iris orange coloured, the throat red, the plumage on the head and neck a light tawny red, each feather being marked with several transverse bars of black; the back and scapulars are a deeper red, and on the middle of each feather is a large black spot; the breast and belly are of a dull purplish-brown colour, crossed with narrow dusky lines; the quill feathers are dusky; the tail consists of sixteen black feathers, the four middlemost of which are barred with red; the thighs are a pale red, obscurely barred with black; the legs and feet are clothed down to the claws with thick, soft, white and brown feathers; the outer and inner toes are connected to the first joint by a small membrane. The female is considerably less than the male, weighing only about fifteen ounces. Her colours in general are less vivid, and she has more of the white and less of the red feathers than the male.

The heathy and mountainous parts of the northern counties of England, are in general stocked with these birds; but they abound in the Highlands of Scotland, and are very common in Wales and Ireland. They feed on insects, seeds, mountain berries, and the tender tops of the heath.

Grouse pair very early in the spring, and the female lays from eight to twelve or thirteen eggs, in a very simple nest, formed

amongst the heath. The young leave the nest almost as soon as hatched, and continue to follow the hen till the severity of the winter sets in, when they unite in packs of twenty or thirty brace. They continue together in the greatest harmony till the approach of spring, when they feel the access of genial desire; the old females then, contrary to what is generally supposed, drive off the young cocks, and a general dispersion takes place; the males view each other with a jealous eye, and furious battles are the consequence.

Grouse are very difficult to be netted, owing to the straggling manner in which they lie, and their scattering on the approach of the sportsman, or at the least noise.

The care and stratagem of the hen for the security of the young are wonderful, and similar to those of the partridge, to which we refer the reader.

THE PTARMIGAN,

OR WHITE GROUSE.

"O'er the sea, o'er the sea, the pale bird flies,
And the *snow flake falls as upward he hies*,
To seek the mountain, its berries to press,
When the lowlands are rob'd in their winter's dress:
Yet, despite its flight, shall that *Ptarmigan*
Fall a prey to the toils of the Lapland Man."

The Ptarmigan is somewhat smaller than the common grouse. Its bill is black; and its plumage, in summer, of a pale brown colour, elegantly mottled with small bars and dusky spots. The head and neck are marked with broad bars of black, rust colour, and white. The wings and belly are white.

These birds moult in the autumn months, and change their summer dress for one more warm; and, instead of having their

Engd by T. Landseer from a Sketch by his Brother Edwin.

DOWN CHARGE.

Nov.1.1828. Published by Sherwood, Jones & Co.

feathers of many colours, they then become greyish white. By a wonderful provision every feather also, except those of the wings and tail, becomes double, a downy one shooting out of the base of each, which gives an additional protection against the cold. In the latter end of February, a new plumage begins to appear, first about the rump, in brown stumps—the first rudiments of the coat they assume in the warm season, when each feather is single. In answer to enquiries made by Sir Joseph Banks, Dr Solander, and some other naturalists, from Captain George Cartwright, who resided many years on the coast of Labrador, on the subject of the grouse changing their colour, he says, "I took particular notice of those I killed, and can aver, for a fact, that they get at this time of the year (September) a very large addition of feathers, all of which are white; and that the coloured feathers at the same time change to white. In spring, most of the white feathers drop off, and are succeeded by coloured ones; or, I rather believe, all the white ones drop off, and they get an entirely new set. At the two seasons they change very differently: in the spring beginning at the neck, and spreading from thence; now they begin on the belly and end on the neck."

Their feet, by being feathered entirely to the toes, are protected from the cold of the northern regions. Every morning they take a flight directly upwards into the air, apparently to shake the snow from their wings and bodies. They feed in the mornings and evenings, and in the middle of the day they bask in the sun.

About the beginning of October they assemble in flocks of a hundred and fifty or two hundred, and live much among the willows, the tops of which they eat. In December they retire from the flats about Hudson's Bay to the mountains, where in that month the snow is less deep than in the lowlands, to feed on the mountain berries.

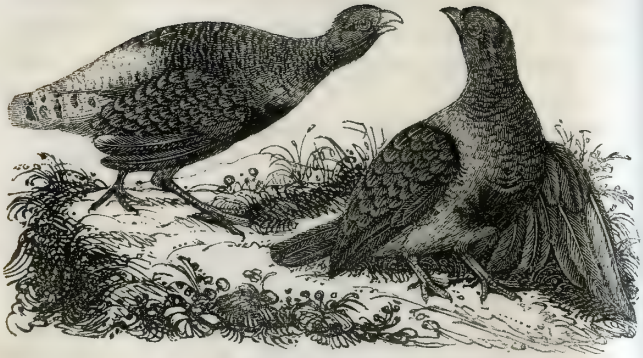
Some of the Greenlanders believe that the ptarmigans, to provide a subsistence through the winter, collect a store of

mountain berries into some cranny of a rock near their retreat. It is, however, generally supposed, that by means of their long, broad, and hollow nails, they form lodges under the snow, where they lie in heaps to protect themselves from the cold. During winter they are often seen flying in great numbers among the rocks.

The ptarmigans are chiefly inhabitants of that part of the globe which lies about the Arctic Circle. Their food consists of the buds of trees, young shoots of pine, heath, and fruits and berries which grow on the mountains.

These birds are found on the grey tops of many of the high mountains in the Highlands of Scotland, and their elevated situations secure them from the general pursuit of the sportsman. It is a task of much more than ordinary labour to climb the high and rugged hills where they are alone to be met with, as they are never seen in the lower grounds. They resemble so much the grey tops of the mountains, that it is almost impossible to distinguish them: for instance, when the sportsman has killed a ptarmigan and picked it up, if he place it again on the ground, and turn round at a few yards distance, he will not be able to see the bird. On all the mountains in the Highlands which I visited, where these birds were to be found, eagles were also to be seen hovering over them. They (and the Alpine hare) constitute, perhaps, the principal food of the eagle, nature having, at the same time, given them that peculiarity of colouring so much resembling their places of abode, to enable them to avoid, in some degree, their rapacious pursuers.

Their voice is very extraordinary; and they do not often exert it but in the night. It is very rarely that they are found in Denmark; but by some accident one of these birds, some years ago, happened to stray within a hundred miles of Stockholm, which very much alarmed the common people of the neighbourhood; for, from its nightly noise, a report very soon



PARTRIDGES. p. 31.

PARTRIDGE-SHOOTING.

arose, that the wood where it took up its residence was haunted by a ghost. So much were the people terrified, that nothing could tempt the postboys to pass the wood after dusk. The spirit was, however, at last happily removed, by some gentlemen sending their gamekeepers into the wood by moonlight, who soon discovered and killed the harmless ptarmigan.

Ptarmigans form their nests on the ground, in dry ridges, and lay from six to ten dusky eggs with reddish-brown spots.

The usual method of taking these birds in the more northern regions, is in nets made of twine, twenty feet square, connected to four poles, and propped with sticks in front. A long line is fastened to these, the end of which is held by a person who lies concealed at a distance. Several people drive the birds within reach of the net, which is then pulled down, and is found to cover fifty or sixty of them. They are in such plenty in the northern parts of America, that upwards of ten thousand are frequently caught for the use of the Hudson's Bay Settlement, between November and May.

They are taken by the Laplanders by means of a hedge formed with the branches of birch-trees, and having small openings at certain intervals, with a snare in each. The birds are tempted to feed on the buds and catkins of the birch; and whenever they endeavour to pass through the openings, they are caught.

They are excellent food; being said to taste so like the common grouse as to be scarcely distinguishable from it.

THE PARTRIDGE.

The partridge is an inhabitant of all the temperate parts of Europe. The extremes of heat and cold are unfavourable to its propagation, and it flourishes best in cultivated countries,

living principally on the labours of the husbandman. In Sweden these birds burrow beneath the snow; and the whole covey crowd together under this shelter to guard against the intense cold. In Greenland the partridge is brown during summer; but as soon as winter sets in, it becomes clothed with a thick and warm down, and its exterior assumes the colour of the snows. Near the mouth of the River Oi, in Russia, the partridges are in such quantities, that the adjacent mountains are crowded with them.—These birds have been seen variegated with white, and sometimes entirely white, where the climate could not be supposed to have any influence in this variation, and even among those whose plumage was of the usual colour.

Partridges have ever held a distinguished place at the tables of the luxurious, both in this country and in France. We have an old distich,

> If the partridge had the woodcock's thigh,
> 'Twould be the best bird that e'er did fly.

They generally pair early in February; and sometimes after pairing, if the weather be very severe, they collect together again, and form into packs. The female lays her eggs, usually from fifteen to eighteen in number, in a rude nest of dry leaves and grass, formed upon the ground: these are of a greenish grey colour. The period of incubation is about three weeks. So closely do these birds sit on their eggs, when near hatching, that a partridge with her nest has been carried in a hat to some distance, and in confinement has continued her incubation, and there produced young ones. The great hatch takes place about the middle of June; and the earliest birds begin to fly towards the latter end of that month. The young brood are able to run the day after they are hatched, and they are even sometimes seen encumbered with a piece of a shell sticking to them. The parents lead them to ant-hills, on the grubs of which, and also upon insects, they at first principally feed.

At the season when the partridge is produced, the various species of ants loosen the earth about their habitations. The young birds, therefore, have only to scrape away the earth, and they can satisfy their hunger without difficulty. A covey that some years ago excited the attention of the Rev. Mr. Gould, gave him an opportunity of remarking the great delight they take in this kind of food. On his turning up a colony of ants, and withdrawing to some distance, the parent birds conducted their young to the hill, and fed very heartily. After a few days, they grew more bold, and ventured to eat within twelve or fourteen yards of him. The surrounding grass was high, by which means they could, on the least disturbance, immediately run out of sight, and conceal themselves. The excellence of this food for partridges may be ascertained from those that are bred up under a domestic hen, which, if constantly supplied with ants' grubs and fresh water, seldom fail to arrive at maturity. Along with the grubs it is recommended to give them, at intervals, a mixture of millepedes, or wood lice, and earwigs, to prevent their surfeiting on one luxurious diet; fresh curds mixed with lettuce, chickweed, or groundsel, should also be given them.

The affection of partridges for their young is peculiarly interesting. Both the parents lead them out to feed; they point out to them the proper places for their food, and assist them in finding it by scratching the ground with their feet. They frequently sit close together, covering their young ones with their wings; and from this situation they are not easily roused. If, however, they are disturbed, most persons acquainted with rural affairs know the confusion that ensues. The male gives the first signal of alarm, by a peculiar cry of distress; throwing himself at the same moment more immediately into the way of danger, in order to mislead the enemy. He flutters along the ground, hanging his wings, and exhibiting every symptom of debility. By this stratagem he seldom fails of so far attracting

the attention of the intruder, as to allow the female to conduct the helpless unfledged brood into some place of security.—"A partridge (says Mr. White, who gives an instance of this instinctive sagacity) came out of a ditch, and ran along quivering with her wings, and crying out as if wounded and unable to get from us. While the dam feigned this distress, a boy who attended me saw the brood, which was small and unable to fly, run for shelter into an old fox's hole under the bank."—Mr. Markwick relates, that "as he was once hunting with a young pointer, the dog ran on a brood of very small partridges. The old bird cried, fluttered, and ran tumbling along just before the dog's nose, till she had drawn him to a considerable distance, when she took wing and flew farther off, but not out of the field. On this the dog returned nearly to the place where the young ones lay concealed in the grass, which the old bird no sooner perceived, than she flew back again, settled just before the dog's nose, and a second time acted the same part, rolling and tumbling about till she drew of his attention from her brood, and thus succeeded in preserving them."

The eggs of the partridge are frequently destroyed by polecats weasels, stoats, crows, rooks, magpies, and other animals. When this has been the case, the female generally makes another nest and lays afresh. The produce of these second hatchings is always a puny sickly race, and the individuals seldom outlive the rigours of the winter.

A partridge covers her eggs, whenever she leaves the nest, for the purpose of securing them, not only from the observation of man, but from the predatory birds mentioned in the preceding paragraph.

It is said, that those partridges which are hatched under a domestic hen, retain through life the habit of *calling* when they hear the clucking of hens.

The partridge, even when reared by the hand, soon neglects

those who have the care of it, and, shortly after its full growth, always estranges itself from the house where it was bred. This will almost invariably be its conduct, however intimately it may have connected itself with the place and inhabitants in the early part of its existence. Among the very few instances of the partridge's remaining tame, was that of one reared by the Rev. Mr. Bird. This, long after its full growth, attended the parlour at breakfast and other times, received food from any hand that gave it, and stretched itself before the fire, and seemed much to enjoy the warmth. At length it fell a victim to the decided foe of all favourite birds, a cat.

A friend has since my last edition favoured me with another instance, and a still more singular one. Mr. Seagrim, for forty years land steward and agent to the Earl of Pembroke, reared four birds in an attic of his house at Wilton. They became perfectly tame, and were constantly fed like chickens. Two of those also fell victims to Grimalkin, and the remaining brace to the carelessness of servants.

On the farm of Lion Hall, in Essex, belonging to Colonel Hawker, a partridge, in the year 1788, formed her nest, and hatched sixteen eggs *on the top of a pollard oak tree*. What renders this circumstance more remarkable is, that the tree had fastened to it the bars of a stile, where there was a footpath; and the passengers, in going over, discovered and disturbed her before she sat close. When the brood was hatched, they scrambled down the short and rough boughs which grew out all around from the trunk of the tree, and reached the ground in safety.

In the year 1798, the following occurrence took place at East Dean, in Sussex, which will tend to prove that partridges have no powers of migration.—A covey of sixteen partridges being routed by some men at plough, directed their flight across the cliff to the sea, over which they continued their course about

three hundred yards. Either intimidated or otherwise affected by that element, the whole were then observed to drop into the water.

It has long been a received opinion among sportsmen as well as naturalists, that the female partridge has none of the bay feathers on the breast (forming a kind of horse-shoe) like the male. This, however, on dissection, has proved to be a mistake; for Mr. Montagu happening to kill nine birds in one day, with very little variation as to the bay mark on the breast, he was led to open them all, and discovered that five of them were females. On carefully examining the plumage, he found that the males could only be known by the superior brightness of colour about the head; which alone, after the first or second year, seems to be the only certain mark of distinction.

Generally speaking, however, the male birds are easily recognised by their superior size, the superior brightness of their colours, as well as by that superior strength and boldness of form which almost throughout animated nature, distinguishes the male from the female.

In regard to the bay feathers which, on the breast of the male partridge, are generally so conspicuous, I have met with a remarkable difference. In the latter end of the month of October, 1828, I happened to be shooting upon the manor of Scarisbrick, in Lancashire, in company with that accomplished marksman, C. Dicconson, Esq. when I was surprised to find the feathers upon the breast of several of the male birds which were killed, instead of presenting the usual bay colour, dusky white; and, in fact, out of several brace of male birds which were bagged, the greater part exhibited this striking variation. Nor, in fact, was this the only remarkable circumstance which fell under my observation on this occasion, as I was surprised to find, that some of the birds were much more covered with feathers towards the top of the neck, and about the head, than

usual, and which, for the sake of distinction, I should call the *ruffed partridge*. The birds were found upon what is called *moss land* (in Lancashire), which has been formed, I believe, from the retrocession of the sea, after its having overflown the land for a considerable period, which originally was covered with timber and underwood.

There are few experienced shooters, I apprehend, who have not frequently met with small coveys of partridges, which consisted entirely of male birds. These small coveys are evidently made up of individuals who have not been able to find mates, and which, at the latter end of the summer, congregate, and appear to live in the greatest harmony—a striking instance of the social disposition of the partridge. They are called *old bachelors*.

THE RED PARTRIDGE.

The red (or red-legged) partridge is larger than the grey, and its plumage is more beautiful; but it is seldom met with in this country. It is, however, found in great plenty in many parts of the continent of Europe, as well as in Asia and Africa. We are told that they differ from the common partridge in their habits, as they perch upon hedges and trees, and also appear in flocks. Attempts have been repeatedly made to naturalize this bird in England, but they do not appear to have succeeded, though they are occasionally met with in some parts of the country.

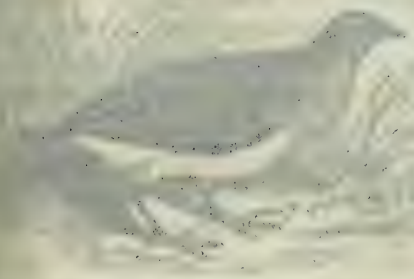
THE QUAIL.

The quail is an inhabitant of nearly all the countries of the world, and in all is esteemed excellent food. In appearance it is so like the partridge, as sometimes to be called the *dwarf partridge;* and in the manners of the two species there is a great resemblance. They feed, form their nest, and rear their young, nearly in the same way. They are, however, in many respects very different. Quails migrate to other countries; they are always smaller, and have not a bare space between the eyes, nor the figure of a horse-shoe on their breasts. The eggs too are less than those of the partridge, and very different in colour. Their voices are unlike. Quails seldom live in coveys, except when their wants unite the feeble family to their mother, or some powerful cause urges at once the whole species to assemble, and traverse together the extent of the ocean, holding their course to the same distant lands. They are much less cunning than the partridge, and more easily ensnared, especially when young.

The females lay about ten eggs, in the incubation of which they are occupied three weeks. The eggs are whitish, but marked with ragged rust-coloured spots.

These birds usually sleep during the day, concealed in the tallest grass, lying on their sides with their legs extended, in the same spot, even for hours together. So very indolent are they, that a dog must absolutely run upon them before they are sprung; and when they are forced upon wing, they seldom fly far. Quails are easily drawn within reach of a net, by a call imitating their cry, which is not unlike the words *whit, whit, whit:* this is done with an instrument called a quail-pipe.

They are found in some parts of Great Britain, but nowhere



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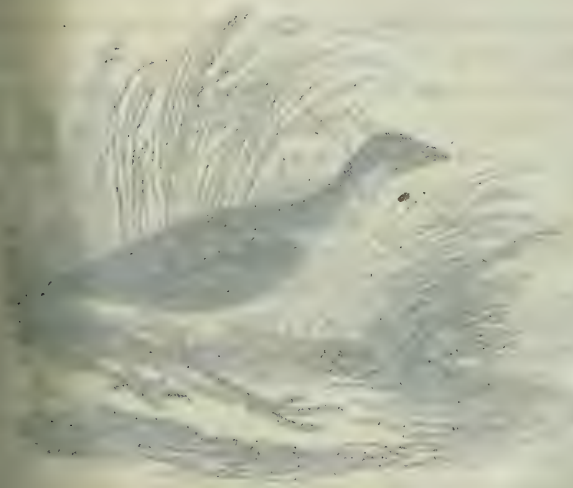

LAND RAIL.

THE QUAIL.

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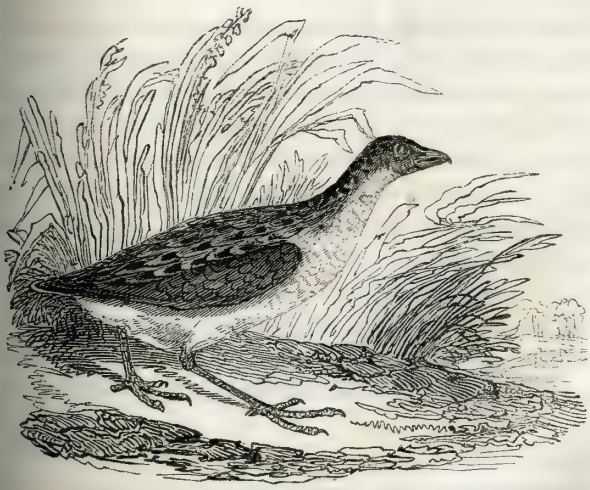
QUAIL.



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LAND-RAIL.

in any great quantity.—They are supposed to winter in Africa, and return early in the spring. If to the circumstance of their generally sleeping in the day, is added that of their being seldom known to make their first annual appearance in the daytime, it may be inferred that they perform their *journey by night*, and that they direct their course to those countries where the harvest is preparing, and thus change their abode to obtain a subsistence. On their arrival at Alexandria, such multitudes are exposed in the markets for sale, that three or four may be bought for a medina (less than three farthings). Crews of merchant vessels have been fed upon them; and complaints have been laid at the consul's office by mariners against their captains, for giving them nothing but quails to eat.

With wind and weather in their favour, they have been known to perform a flight of fifty leagues across the Black Sea in the course of a night—a wonderful distance for so short-winged a bird.

Such prodigious quantities have appeared on the western coasts of the kingdom of Naples, in the vicinity of Nettuno, that a hundred thousand have been caught within the space of three or four miles. Most of these are taken to Rome, where they are in great request, and are sold at extremely high prices. Clouds of quails also alight, in spring, along the coasts of Provence; especially in the lands belonging to the Bishop of Frejus, which border on the sea. Here they are sometimes found so exhausted, that for a few of the first days they may be caught with the hand.—In some parts of the south of Russia, they abound so greatly, that at the time of their migration they are caught by thousands, and sent in casks to Moscow and Petersburgh.

Quails are birds of undaunted courage; and their quarrels often terminate in mutual destruction. This irascible disposition induced the ancient Greeks and Romans to fight them with each

other, as the moderns do game cocks. And such favourites were the conquerors, that in one instance Augustus punished a prefect of Egypt with death, for bringing to his table one of these birds which had acquired celebrity for its victories.

THE CORN CRAKE,

LAND RAIL, OR DAKER HEN.

The length of this bird is nine inches; the bill is one inch long, strong and thick, and of a greyish brown, formed exactly like that of the water hen, and makes a generical distinction. The eyes hazel; the feathers on the upper parts are of a rufous brown, each dashed down the middle with black; the under parts the same, but paler, and not spotted, and edged with pale rust-colour; chin very pale: both wing coverts and quills are of a lightish chesnut; the fore part of the neck and breast is of a pale ash colour; a streak of the same colour extends over each eye, from the bill to the side of the neck; the belly is of a yellowish white; the sides, thighs, and vent, are faintly marked with rusty-coloured streaks; the tail is short, and of a deep bay; the legs are of the colour of the bill. It is always found among the corn, grass, broom, and furze. The land rail quits this kingdom before winter, and repairs to other countries in search of food, which consists of worms, slugs, insects, and seeds of various kinds; but the water rail endures our sharpest seasons.

The corn crake is the harbinger of summer, and begins to be heard about the middle of May, and continues its note during the breeding season; it then migrates.

In meadows, from the time the grass is grown, until cut, there issues from the thickest part of the herbage a sound, expressing the word *crek, crek, crek*, and which is a noise much

like that made by stripping forcibly the teeth of a large comb under the fingers; as we approach, the sound retires, and is heard fifty paces off: it is the land rail that emits this cry, and begins to be heard about the second week in May. The land rail (says Mr. Pennant) lays from twelve to twenty eggs of a dull white, marked with a few yellow spots; but, according to Latham and Buffon, the number of eggs does not exceed twelve, which are larger than those of the quail, and more coloured; are an inch and a half in length, and not unlike those of the missel thrush, being of a reddish cinereous white, marked with ferruginous blotches, with a few indistinct ones of a pale reddish ash colour: the nest is negligently constructed with a little moss, or dry grass, and placed usually in some hollow of the turf where the grass is thickest. The young crakes are covered with a black down, and run as soon as they burst the shell, following their mothers, but quit not the meadow till the scythe sweeps away their habitation. The late hatches are plundered by the mower; all the early broods then shelter themselves amongst buck-wheat, oats, very frequently in clover-seed, and in waste grounds overspread with broom, where in summer they are often found: a few return again to the meadows at the end of that season.

It is easily known when a dog scents a land rail, from his keen search, and the obstinacy with which the bird persists in keeping the ground, insomuch that it may be sometimes caught by the hand; it often stops short and squats; the dog, pushing eagerly forward, overshoots the spot, and loses the trace; and the rail, it is said, profits by his blunder, and retraces its path; nor does it spring till driven to the last extremity, when it flies heavily, and generally with its legs hanging down, but never far at a flight: when it alights, it runs off, and before the sportsman has reached the place, the bird is at a considerable distance; nor is it sprung a second time but with great difficulty. The

fleetness of its feet compensates for the tardiness of its wings: all its excursions, windings, and doublings in the fields and meadows, are performed by running. When upon wing, if it flies to a hedge, the sportsman is recommended to look upon the boughs, as it will perch and sit till he almost touches it, and frequently, by that means, eludes all pursuit.

Corn crakes are plentiful in some parts of these realms; in Ireland particularly so. They are in the greatest plenty in the Isle of Anglesea, where they appear about the third week in April, supposed to come there from Ireland; at their first arrival it is common to shoot seven or eight in a morning. They abound in the county of Caithness, in Scotland, and are found in most of the Hebrides, and the Orkneys. Few places in England are destitute of them in summer, but they are nowhere what may be called common. It is observed, wherever quails are in plenty, the crake abounds: on their first appearance in England, they are so lean as to weigh less than six ounces, but before their departure have been known to exceed eight, and are very fat: their flesh is reckoned an exquisite morsel.

Buffon states, that when the land rail returns to other countries, the flight commences during the night, and, aided by a favourable wind, it attempts the passage of the Mediterranean, where, no doubt, many perish, as it is remarked that their numbers decrease upon their return; that migrations of this bird extend more to the north than the south, and, notwithstanding the slowness of its flight, it penetrates into Poland, Sweden, Denmark, and even Norway. To the northern countries, he conceives, the land rail repairs, as much for cool situations, as to obtain its proper food; for although it eats the seeds of broom, trefoil, groundsel, and fattens in a cage on millet and grain; and when grown up, every sort of aliment suits it; yet it prefers insects, slugs, worms; and these, which are necessary for its young, can be found only in shady, wet grounds: the humidity of those of Ireland is also congenial to its nature.

PHEASANT.

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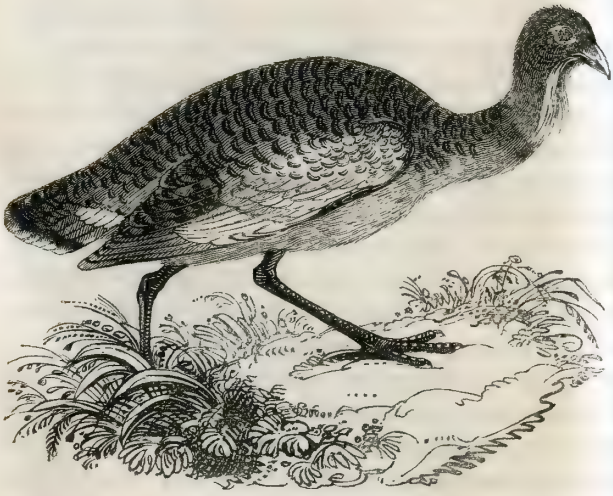

BUSTARD.

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THE PHEASANT.

"Beautiful bird! gorgeous all o'er in dress,
Like a plum'd, crested warrior, and as gay
In variegated colours, as the bride
An eastern monarch chooses. Pretty bird!
When but a boy, too tiny for the gun,
I 've heard the rustle of thy rushing wing,
And sigh'd for time to flee aye fast as thee,
That I may point the thund'ring tube of death,
And gain so rich a prize." A. M. T.

The characters of the pheasant tribe are a short, convex, and strong bill; the head more or less covered with carunculated bare flesh on the sides, which, in some species, is continued upwards to the crown, and beneath so as to hang pendant under each jaw; and the legs, for the most part, furnished with spurs.

The females produce many young ones at a brood, which they take care of for some time, leading them abroad and pointing out food for them. These are at first clad with a thick soft down. The nests of the whole tribe are formed on the ground.

This beautiful bird is very common in almost all the southern parts of the old continent, whence it was originally imported into our country. In America it is not known.

Pheasants are much attached to the shelter of thickets and woods where the grass is very long; but, like the partridges, they often breed also in clover fields. They form their nests on the ground; and the females lay from twelve to fifteen eggs, which are smaller than those of the domestic hen. In the mowing of clover near the woods frequented by pheasants, the destruction of their eggs is sometimes very great. Poultry hens are often kept ready for sitting on any eggs that may be exposed by the

scythe; and with care, numbers are thus rescued from destruction. The nest is usually composed of a few dry vegetables put carelessly together, and the young follow the mother like chickens, as soon as they break the shell.—The pheasants and their brood remain in the stubbles and hedge-rows, if undisturbed, for some time after the corn is ripe. If disturbed, they seek the woods, and only issue thence in the mornings and evenings to feed in the stubbles. They are very fond of corn: they can, however, procure a subsistence without it, since they often feed on the wild berries of the woods and on acorns.

In confinement the female neither lays so many eggs, nor hatches and rears her brood with so much care and vigilance, as in the fields out of the immediate observation of man. In a mew she will very rarely dispose them in a nest, or sit upon them at all. Indeed, in the business of incubation and rearing the young, the domestic hen is generally made a substitute for the hen pheasant.

The wings of these birds are very short, and ill adapted for considerable flights. On this account, the pheasants on the island called *Isola Madre*, in the *Lago Maggiore*, at Turin, as they cannot fly over the lake, are altogether imprisoned. When they attempt to cross the lake, unless picked up by the boatmen, they are always drowned.

The pheasant is in some respects a very stupid bird. On being roused, it will often perch on a neighbouring tree, where its attention will be so fixed on the dogs, as to suffer any person to approach very near. It has been asserted, that the pheasant imagines itself out of danger whenever its head only is concealed. Sportsmen, however, who will recount the stratagems that they have known old cock pheasants adopt in thick and extensive coverts, when they have found themselves pursued, before they could be compelled to take wing, will convince us that this bird is by no means deficient in at least some of the contrivances necessary for its own preservation.

As the cold weather draws on, the pheasants begin to fly at sunset into the branches of the oak-trees, for roosting during the night. This they do more frequently as the winter advances, and the trees lose their foliage. The male birds at these times make a noise, which they repeat three or four times, called by sportsmen, *cocketing*. The hens, on flying up, utter one *shrill whistle*, and then are silent. Foxes destroy great numbers of pheasants.

The males begin to *crow* the first week in March. This noise can be heard at a considerable distance.—They will occasionally come into farm-yards in the vicinity of coverts where they abound, and sometimes produce a cross breed with the common fowls.

In places where pheasants are preserved, the male bird will approach the farm-yard, and give battle to the domestic cock. After a few strokes, the pheasant suddenly rises into some neighbouring tree, when the cock, having lost his antagonist, appears confused. However, the moment he attempts to retire, the pheasant descends, and renews the attack. Thus the fight is continued for some time.

It has been contended that pheasants are so shy as not to be tamed without great difficulty. Where, however, their natural fear of man has been counteracted from their having been bred under his protection; and where he has almost constantly appeared before their eyes in their coverts, they will come to feed immediately on hearing the keeper's whistle. They will follow him in flocks, and scarcely allow the peas to run from his bag into the troughs placed for the purpose, before they begin to eat. Those that cannot find room at one trough, follow him with the same familiarity to others.

A few weeks since, says a correspondent, in the Annals of Sporting, I saw a very fine as well as a very beautiful specimen of the pheasant, perfectly new to me, and which, I believe, has

not yet been described. The person in whose possession it was, called it the *Bohemian Pheasant*. It is larger than the common pheasant, and both male and female have a very peculiar cry. The prevailing colour is brown; but the cock has a number of beautiful black and white striated feathers on the back, while the tail exhibits somewhat the appearance of the Argus pheasant of India, being thickly marked with circular spots, denominated *eyes*. The spurs of the cock are much longer than in the common pheasant; his gait is more upright, and he appears altogether a bolder as well as a stronger bird; the head and breast are of a beautiful dark blue, or blueish-black colour. The hen is smaller than the cock, in about the same proportion as the common pheasant, and is by no means so beautiful, being principally of a brown colour. The legs in both are red. Whether they are originally from the forests of Bohemia, I know not; but they appear hardy birds, and, I have no doubt, might very easily be naturalized in this country, where they would add to the variety, and also to the beauty of our winged game.

Pheasants are found in most parts of England, but are seldom seen in Scotland; while in Ireland I am not certain that there are any in a state of freedom. Wood and corn-lands seem necessary to their existence.

The general weight of male pheasants is from two pounds and eight ounces, to three pounds and four ounces. That of the hens is usually about ten ounces less.

The female birds have sometimes been known to assume the elegant plumage of the male. But with pheasants in a state of confinement, those that take this new plumage always become barren, and are spurned and buffeted by the rest. From what took place in a hen pheasant in the possession of a lady, a friend of Sir Joseph Banks, it would seem probable that this change arises from some alteration of temperament at a late period in the animal's life. This lady had paid particular attention to the

breeding of pheasants. One of the hens, after having produced several broods, moulted, and the succeeding feathers were exactly those of a cock. This animal never afterwards had young ones. —Similar observations have been made respecting the *peahen*. Lady Tynte had a favourite pied peahen, which at eight several times produced chickens. Having moulted when about eleven years old, the lady and her family were astonished by her displaying the feathers peculiar to the other sex, and appearing like a pied peacock. In this process the tail, which was like that of the cock, first appeared. In the following year she moulted again, and produced similar feathers. In the third year she did the same, and then had also spurs resembling those of the cock. The hen never bred after this change of her plumage. She is now preserved in the Leverian Museum.*

* The celebrated John Hunter wrote a paper upon this subject, from which we may be excused giving the following extract:—

"It is observed (says Mr. H.) by those who are conversant with this bird, when wild, that there appears, every now and then, a hen pheasant with the feathers of the cock; and all that they have decided upon the subject is, that this animal does not breed, and that its spurs do not grow. Some years since, one of these was sent to the late Dr. William Hunter, which I examined, and found it to have all the parts of the female peculiar to that bird. This specimen is still preserved in Dr. Hunter's Museum.

"Dr. Pitcairn having received a pheasant of this kind, I was desired to examine it; and the result of my examination was, that I found the parts of generation to be truly female. They were as in any hen pheasant that is not in the least prepared for laying eggs; there were both the *ovaria* and *oviduct*.

"Having bought (continues Mr. H.) some pheasants, I perceived that one of the hens the year after did not lay, and began to change her feathers; the year following she had nearly those of the cock, but less brilliant, especially on the head. This, in all probability, was an old hen, nearly under similar circumstances to those before described.

"From what has been related of these birds, may it not (asks Mr.

Young pheasants leave the preserves early in October, driven away, most likely, by the parent bird, (in the same manner as we see the domestic hen drive away her chickens) and will continue for a week or ten days before they return to their native haunts, during which period they afford diversion to the sportsmen of the neighbourhood.

Attempts have occasionally been made to render the pheasant domestic, after the manner of our barn-door poultry, and these attempts have generally proved abortive; either from the improper mode adopted for the purpose, or from not persevering in the attempt for a sufficient length of time, I have no doubt. Last year (1829) I saw a number of young pheasants which had been hatched under hens at Scarisbrick Hall, owing to the original nests having been disturbed by the operations of the scythe. These birds were very familiar with the keeper, but were suffered (and indeed forced, in some degree) to stray away

H.) be reasonably inferred, that all those wild hen pheasants, whose feathers resemble the cock, have changed the nature of their feathers at a certain age? This not only obtains in the birds above mentioned, but perhaps to a certain degree in every class of animals. We find something similar taking place even in the human species; for that increase of hair observable on the faces of every woman in advanced life is an approach towards the beard, which is one of the most distinguishing secondary properties of man.

"We thus see the sexes, which at an early period had little to distinguish them from each other, acquiring, about the time of puberty, secondary properties, which clearly characterise the male and female. The male at this time recedes from the female, and assumes the secondary properties of his sex.

"The female, at a much later period of life, when the powers of propagation cease, loses many of her peculiar properties, and may be said, except from mere sexual organization, to be of the neuter gender; and even recedes from the original character of the animal, approaching in appearance towards the male, or perhaps more properly towards the hermaphrodite."

into the neighbouring woods at the latter end of the summer. In the present year (1830) several of the hen pheasants, hatched as above stated, formed their nests upon or near the place where they had been reared; and, during the process of incubation, two of them became so tame as to suffer the keeper to approach and examine their nests: further, he covered them with hutches, and used them as foster mothers, in the same way as he employed the common domestic hen. On the 11th of July (1830), I saw these hen pheasants in their hutches, one of which had twenty-six young birds running about her, all very healthy, partridges and pheasants mixed together; for the keeper had placed both partridges' and pheasants' eggs under her: the other had hatched a number of pheasants. The sight was highly interesting. The keeper threw down several handsful of mould, containing ants' eggs, upon the latter of which the young birds eagerly fed. The foster mothers appeared remarkably tame; nor have I the least doubt, that, by persevering upon this system, the pheasant might, in a short time, be rendered as domestic as our common poultry.

THE BUSTARD.

The bustards have a somewhat convex bill, with open and oblong nostrils. The legs are long, and naked above the knees. The feet have only three toes, all placed forward.

There are about twelve different species, all of which are confined to the old continent.

THE GREAT BUSTARD.—This is the largest land-fowl produced in our island, the male often weighing twenty-five pounds and upwards. The length is near four feet, and the breadth nine. The head and neck are ash-coloured. The back is transversely

barred with black and bright rust colour. The belly is white; and the tail, consisting of twenty feathers, is barred with red and black. The legs are dusky. On each side of the lower mandible of the bill, there is a tuft of feathers about nine inches long.

The female is not much more than half the size of the male. The top of her head is of a deep orange, and the rest of the head brown. Her colours are not so bright as those of the male, and she wants the tuft on each side of the head. There is likewise another very essential difference between the male and the female; the former being furnished with a sack, or pouch, situated in the fore part of the neck, and capable of containing about two quarts of water, the entrance of which is immediately under the tongue. This singular reservoir was first discovered by Dr. Douglas, who supposes that the bird fills it with water to supply its thirst in the midst of those extensive plains where it is accustomed to wander: it likewise makes a further use of it, in defending itself against the attacks of birds of prey: on these occasions it throws out the water with such violence, as not unfrequently to baffle the pursuit of its enemy.

This bird makes no nest; but the female lays her eggs in some hole in the ground, in a dry corn-field; these are two in number, as big as those of a goose, and of a pale olive brown, marked with spots of a deeper colour. If, during her absence from the nest, any one handles, or even breathes, upon the eggs, she immediately abandons them. The young follow the dam soon after they are excluded from the egg, but are not capable for some time of flying.

Bustards are, I believe, confined to the old continent, and a few of its adjacent islands, and feed on green corn, the tops of turnips, and various other vegetables, as well as on worms; but they have been known to eat frogs, mice, and young birds of the smaller kind, which they swallow whole. They are remark-

p. 51.

WOODCOCK.

SNIPE-SHOOTING.

...ade for their prey towards moonlight, and...
...going early down into wet ditches by the smallest pits...

...England they are seldom seen; but in Ireland they...
...part, and are in the most abundance of the spring and...
...for Devonshire to be in the north by Candlemas, and...
...seen on Midsummer Eve.' They are seen in calling...
...for two or three months; and the young must...
...sometimes pursued and taken by greyhounds.

THE WOODCOCK.

...This bird has a long slender, straight bill. The nostrils are...
...situate, and bulged by a furrow. The head is rather small...
...size features. The hot most thin body, the hind part of which...
...very short, and consists of several joints. The female would...
...will now be distinguished from the male by having scarcely...
...what long the lower part of the middle toe of the outermost...
...farther of the body. The outer part of the outermost feather...
...of the wing is elegantly and variously marked with black and...
...white spots. In the hinder wing of both it is small-pointed,...
...every feather very slender and much longer than the primaries,...
...it makes a good march.

...The woodcock, being common in the forests of Norway,...
...Sweden, and other northern countries, is very frequently...
...But when it must migrations, the reason from these high...
...climates, is surprising to all, being impossible to...
...Some... There have been many reasons given for these...
...birds at one time in the year, but none is more...
...than that of their food. They generally take advantage of the...
...night, being seldom seen to come before sun-set. The time of...
...their coming depends much upon the prevailing winds; for, in...

able for their great timidity, carefully avoiding mankind, and being easily driven away in whole herds by the smallest dog.

In England they are seldom seen: at a former period they were met with in the open countries of the south and east parts, from Dorsetshire as far as the wolds in Yorkshire, and were often seen on Salisbury Plain. They are slow in taking wing, but run with great rapidity; and the young ones were even sometimes coursed and taken by greyhounds.

THE WOODCOCK.

This bird has a long, slender, straight bill. The nostrils are linear, and lodged in a furrow. The head is entirely covered with feathers. The feet have four toes, the hind one of which is very short, and consists of several joints. The female woodcock may be distinguished from the male by a narrow stripe of white along the lower part of the exterior veil of the outermost feather of the wing. The same part in the outermost feather of the male is elegantly and regularly spotted with black and reddish white. In the bastard wing of both is a small-pointed, narrow feather, very elastic, and much sought after by painters, as it makes a good pencil.

The woodcock, during summer, is an inhabitant of Norway, Sweden, Lapland, and other northern countries, where it breeds. But when winter approaches, the severe frosts of those high latitudes, by depriving it of food, force it southwards to milder climates. These birds arrive in Great Britain in flocks, sometimes as early as September, but not in great numbers till November and December. They generally take advantage of the night, being seldom seen to come before sun-set. The time of their arrival depends much upon the prevailing winds; for, as

they are unable to struggle with the boisterous gales of the Northern Ocean, they wait for the advantage of a favourable wind. When they have had bad weather to encounter on their passage, they are frequently so much exhausted on their arrival, as to remain on the same spot many hours, almost helpless, and much reduced in flesh, by the fatigue of their voyage. In very stormy weather, we are told they occasionally take refuge in the rigging of vessels at sea, and that numbers are frequently lost in their passage.

They feed on worms and insects, which they search for with their long bills, in soft ground and moist woods, flying and feeding principally in the evening and by moonlight. They go out in the evening, and generally return in the same direction, or through the same glades, to their day retreat.

The greater part of them leave this country about the latter end of February, or the beginning of March. They retire to the coast, and, if the wind be favourable, set out immediately; but if contrary, they are often detained for some time, and thus afford good diversion to those sportsmen who reside near the sea.

Very few of them remain in England during the summer, though instances of this kind occasionally happen, and the female has been known to make a nest and lay eggs. But even these instances have most likely arisen from the birds having been so wounded by the sportsman in the winter, as to be disabled from taking their long journey in spring. They build their nests on the ground, generally at the foot of some tree, and lay four or five eggs, the size of those of a pigeon, of a rusty colour, and marked with brown spots. A single bird was observed to remain in a coppice, belonging to a gentleman in Dorsetshire, through the summer. The place, from its shady and moist situation, was well calculated to maintain it; yet, by degrees, it lost almost all its feathers, so that for some time it

was unable to fly, and was often caught; but in the autumn it recovered its strength and feathers, and flew away.

Woodcocks generally weigh from twelve to fourteen ounces, and are chiefly found in covers, particularly those with wet bottoms, and underneath holly bushes; they are not, however, fond of covers where there is long grass growing in the bottom, and at the roots of the trees. In mild weather they are to be met with chiefly in the open country, in hedge-rows, &c. but a severe frost forces them to the thickest covers, and to springs and small running streams that are sheltered with trees or underwood.

An erroneous notion generally prevails that the woodcock lives by *suction;* which has probably arisen from the bird's being occasionally observed to thrust his long bill into the earth. As I am not aware that any naturalist has truly described the mode of feeding of the woodcock, I shall relate a few particulars from actual observation. Most writers observe, that, to obtain food, the woodcock thrusts his long bill into the ground, and thus coming in contact with small worms and insects, he is enabled, by means of his semi-serrated beak, to squeeze the dirt out of his mouth, and then swallow the food. It is possible, certainly, that the woodcock may, by *boring*, obtain small worms and insects, and, after cleansing them from the dirt, swallow them; but his general and regular mode of feeding is as follows:—having pierced the ground with his long bill, and shaken the surrounding earth, all the worms in the immediate vicinity make their way to the surface and are greedily swallowed. If a person force a stick or spade into the ground, and move it about, he will quickly perceive the worms within reach of the motion appear at the surface, manifesting great alarm and eagerness to escape from danger: instinct, therefore, no doubt, impels the woodcock thus to procure his food. In a severe frost, this bird is driven to shades and protected places,

where the ground still remains sufficiently soft to admit of the operation of *boring*. The woodcock appears to crush the worm to a jelly as it passes up his bill; and, either from this circumstance, or from extraordinary powers of digestion, whatever the bird swallows seems to become, almost instantaneously, that exquisite table delicacy known by the name of *trail*. If a woodcock be *flushed* while feeding, in the very act of swallowing a worm, and be shot, at the distance of thirty yards from the spot whence he rose, the worm will be found changed into a jelly-like substance, the *trail* I have just mentioned. The woodcock is seen to feed early in the morning, and at dusk in the evening; but this must not be understood in a literal sense. This bird is on the wing at the very dawn of the morning, and feeds as soon afterwards as he can discover food; he will then generally continue in the place where he has fed, if sheltered, or seek the protection of some cover or hedge; and, if undisturbed, will remain in the same situation till late in the afternoon, when he feeds again, and afterwards takes a short flight or two to his resting place for the night.

THE SNIPE.

Having given a particular description of the woodcock, it will only be necessary to observe, that the plumage and shape of the snipe are much the same; and indeed its habits and manners bear a great analogy. But there are three different sizes of snipes, the largest of which, however, is much smaller than the woodcock. The common snipe weighs about four ounces, the jack snipe is not much bigger than a lark; the large snipe weighs about eight ounces, but is seldom met with. Some have supposed that the common snipe is the jack's female; however, the contrary is now too well known to need a refutation in this place. The jack snipe is called also the judcock.

p. 55.

HARE.

p. 244.

WILD RABBIT.

Snipes are to be found all the winter in wet and marshy grounds, particularly where there are rushes; they are frequently to be found on mountains and moors among the heath, but a severe frost forces them to the springs and running streams. Numbers of these birds remain with us all the year, and breed in our marshes, laying generally six eggs the latter end of May. In saying this, I wish to be understood as meaning the common snipe; for I am of opinion the jack snipe, like the woodcock, goes to a more southern latitude to breed; though he is sometimes seen here in the summer, which may arise from similar causes to those which have induced the occasional stay of the woodcock. But numbers of the common snipe are found to stay and breed from choice, though by far the greater part migrate for this purpose.

THE HARE.

"———————— the timid hare!
Scared from the corn, and now to some lone seat
Retired: the rushy fen; the ragged furze,
Stretch'd o'er the stony heath; the stubble chapt;
The thistly lawn; the thick entangled broom;
Of the same friendly hue, the wither'd fern;
The fallow ground laid open to the sun,
Concoctive; and the nodding sandy bank,
Hung o'er the mazes of the mountain brook.
Vain is her best precaution; though she sits
Conceal'd, with folding ears; unsleeping eyes,
By Nature raised to take th' horizon in;
And head couch'd close betwixt her hairy feet,
In act to spring away.————————"

Strictly speaking, this animal is an improper object for the *shooting* sportsman; in fact, there is an act of parliament which

subjects any person to a penalty for shooting a hare; but this act is superseded by a posterior one, and the practice of shooting these animals has become very general.

The hare is one of the most timid animals in nature; fearful of every danger, and attentive to every alarm, it is continually upon the watch; and being provided with very long ears, which are moveable at pleasure, and easily directed to any quarter, it is warned of the distant approach of its enemies. As the hare is destitute of the means of defence, nature has endowed it with powers of evasion in a superior degree: every part and member of this animal seems peculiarly formed for celerity, and it is consequently one of the swiftest quadrupeds in the world. Its hind legs are much longer than the fore ones, and are furnished with strong muscles, which give it a singular advantage in running up a hill; and of this it appears very sensible, as it is generally observed to fly towards rising ground when first started.

The colour of this animal is another great means of preservation, as it often so much resembles the ground on which it sits, as not to be easily distinguished. In cold countries, near the pole, where the ground is covered the greatest part of the year with snow, the hare becomes white, which consequently renders it less conspicuous in those frigid regions.

Thus formed for escape, it might be supposed the hare would enjoy a state of tolerable security; but, although harmless and inoffensive in itself, it has no friend. Dogs of all kinds, as well as foxes, pursue it, seemingly by instinct; wild cats, weasels, &c. catch and destroy it; birds of prey are still more dangerous enemies; while man, more powerful than all, makes use of every artifice to obtain a creature, which constitutes one of the numerous delicacies of his table.

According to naturalists, the hare lives six or seven years, and attains its full growth in one. It engenders frequently before it is a year old. The buck seeks the doe principally from

the month of December to the month of April. The female goes with young thirty or thirty-one days, and brings forth generally two young ones, (though they have been known to produce three or four) and deposits them in a tuft of grass or heath, or in a little bush, without any apparent preparation.

The ridiculous assertions which some writers on natural history have made, viz. of hares being generally hermaphrodites, or of their changing their sex every month, as well as of possessing the power of superfetation, are too glaringly absurd to need a detailed refutation in this place. The circumstance which seems to have given rise to the first of these notions is the formation of the genital parts of the male hare, whose testicles do not plainly appear when he is young, but are obvious enough afterwards. Another reason is, that on the side of the penis, which is scarcely to be distinguished, there is an oblong slit, the orifice of which, in some measure, resembles the vulva of the female. The male and female are known to the sportsman by the following distinctions: the head of the male is more short and round, the whiskers long, the shoulders more ruddy, and the ears shorter and broader, than those of the female; whose head is long and narrow, the ears long and sharp at the tip, the fur on the back of a grey colour, inclining to black, and in point of size she is frequently found smaller than the male. There is also considerable difference in the feet. In the male, the feet are small and pointed, and the nails short; whereas, in the female, they are much larger and more spread; the nails also are much longer.

A young hare, that has attained the full growth, may be known from an old one by feeling the knee joints of the fore legs with the thumb nail. When the heads of the two bones, which form the joints, are so close, that little or no space is to be perceived between them, the hare is old. If, on the contrary, there is a perceptible separation, the hare is young; and

is more or less so, in proportion to the separation of the bones. It may also be known whether a hare is old or young, but without pretending to ascertain the precise age, by compressing the under jaw-bones: if they break at the point immediately under the fore-teeth, upon a slight degree of pressure, the hare is certainly a young one; but if considerable force is required, the contrary may be inferred.

The hare is very prolific, and I believe the female will sometimes take the buck the latter end of the same season the early part of which gave it birth. In fact, were it not for its surprising fecundity, the species (in England at least) would soon become extinct. To say nothing of its other numerous enemies, this animal appears the peculiar object of the poacher. There are various methods of taking them, and so little skill is required, that any bungler is able to execute his purpose. The wire snare is most commonly employed by poachers; though I believe it is not generally known, that hares may be covered on their seats in the day time with a net, much easier than a covey of partridges.

Those who are desirous of having hares very numerous in their parks, or warrens, should destroy some of the buck hares before the rutting season; as, if the latter are left in great numbers, they will prevent the does breeding properly, by their incessant teazing.

Hares of a light grey colour are met with on some of the mountains in the Highlands of Scotland. They are smaller than the common hare, and very much resemble the colour of the ground which they inhabit. They are somewhat allied to the Alpine hare, if they are not the identical animal. Hares of a light grey colour, but of the ordinary kind, I have frequently seen in Lancashire, particularly upon what are called the moss lands, in that county.

BREEDING POINTERS & SETTERS.

This subject has been already noticed under the head *Setter*, as well as under that of *Pointer*, but in what may be called the outline only: it will therefore be necessary, in this place, to descend to those particulars, without which, I should regard the present volume as incomplete.

Further, I will here take the liberty of observing, that, whatever appears upon the subject of breeding Pointers and Setters in the present volume, has been written from practical experience; and, after breeding the dogs in question for twenty-seven years, I think I can boast of pointers at least equal, if not superior, to any not only in the kingdom, but in the world*.

In the first place, I would wish it to be fully impressed upon the mind of the sportsman, that, whenever, by judicious crosses or otherwise, he has obtained a breed of first-rate excellence, he must, nevertheless, in order to preserve such excellence, call in the assistance of other breeds of repute; since, if he confine the propagation to the same family, the *strain* will degenerate, and in the third or fourth generation become literally good for nothing.—Relationship should be as much as possible avoided in breeding, nor can any better plan be adopted than procuring either the dog or bitch from a distant part of the country. Thus by crossing the Norfolk and the Yorkshire blood, the two best greyhounds (Snowball and Major) ever known, were produced.

The ill consequences of breeding *in and in*, to use a sportsman's phrase, are now tolerably well known, and the remark is

* Should any gentleman wish for private information on the subject, or proof of what I have stated above, he may learn my address by application to the publishers.

not confined to dogs only, but would seem to apply equally perhaps to the whole circle of nature. The judicious farmer, aware of the evil, spares neither expense nor pains in crossing his horses, cows, and sheep; his pigs and poultry. Even the human species, by the intermarriages of families strikingly exemplifies these observations—degeneracy of mind as of body is thus produced; scrofulous diseases are the certain result; and hence scrofula is less frequent in large towns; but is uniformly found to prevail in all secluded villages, where the continued intercourse of the same families has existed for a few generations.

If, therefore, the object of the sportsman be to procure and maintain a good breed of pointers or setters, let him have recourse to other breeds of pointers or setters of undisputed merit, if from a distant part, the better perhaps; but if his neighbour's dogs stand in no degree of affinity, he need not be at the trouble of seeking for greater strangers.

The foregoing remarks are not exclusively applicable to animated nature, but may be very justly extended to the vegetable world: hence the farmer never sows corn on the land where it was produced; and hence seed potatoes grown in Scotland are imported into Lancashire, where this useful vegetable attains the utmost possible perfection.

The best modes of crossing have been already pointed out under the articles *setter* and *pointer* in a great degree; but I will take the liberty further to observe, in addition to the remarks made in the last paragraph, that a pointer from Spain, Portugal, or France, crossed with a deep-flewed hound will produce excellent dogs; or they may be crossed with a pointer already naturalized, as it were, in this country, and the result anticipated with confidence. But there cannot be a worse cross than the pointer and setter—see the article *Pointer*, page 16.

If the opinion be correct, that the setter was originally pro-

duced by the conjunction of the talbot or blood-hound and the springer (and I have no objection to believe it), for want of the former a reproduction of this sort seems out of the question, unless recourse be had to Denmark or Norway, where I am told the talbot is still to be found *.—The blood-hound of Cuba and the West Indies is a very different animal, and no way calculated to improve the breed of dogs in this country, however it may be admired by the Spaniards: it is employed for an inhuman purpose, and is extremely fierce and courageous—its master is still more ferocious.

However, there are, I believe, to be met with, particularly in Scotland, setters of first-rate excellence. At all events, if setters be the object of the sportsman, let him select the sire and dam from families of repute, and let the individuals, if possible, be remarkable, not only for goodness of nose, but beauty of form, good temper, and the middle size. No better rule can be adopted in breeding pointers, or indeed any other kind of dogs.

A bitch will become *proud* very frequently before she is twelve months old, the first symptoms of which are the red appearance and swelling of the *vulva;* but she will not, for some days, suffer the conjunction of the dog: as the heat advances, she will play and dally with him, and manifest every inclination to copulate. But as these animals grow generally till they are nearly two years old, they ought not to be suffered to breed before that period.

To breed from either an old dog or bitch is improper. However, when two animals are chosen for this purpose, they should remain together for some time, one night, for instance, is sufficient; but where the dog is only once admitted, the bitch will

* Since printing the former edition, I have ascertained that the talbot is still to be met with in England, for instance, a Mr. Gell, who resides in Derbyshire, possesses the true breed.

sometimes prove barren. Nor is it a little remarkable, that, if you suffer a bitch to receive several dogs, such as a terrier, a greyhound, a bulldog, &c. she will produce puppies of all the different kinds.

Young dogs should be tied up or confined as little as possible, as it spreads their feet, and they become *out at the elbows*, and bandy legged. The same effects will be produced in a full grown dog, but in a much less degree. Dogs of all ages should have free access to good clean water, a clear stream if possible.

The period of gestation in the bitch is about sixty-three days, and she produces from four to ten at a litter. The young are brought forth blind: the two eye-lids are not merely glued together, but shut up with a membrane, which is torn off as soon as the muscles of the upper eye lids acquire sufficient strength to overcome this obstacle to vision, which generally happens about the tenth day. At this period the young animals are extremely clumsy and awkward. The bones of the head are not completed; the body and muzzle are bloated, and the whole figure appears ill-designed. Their growth, however, is rapid; and in about six weeks they acquire the use of all their senses. When four months old, they lose their teeth, which are quickly replaced, and are never afterwards changed.

A dog's age may be tolerably well ascertained by the appearance of his teeth. A young dog's teeth generally look clean and white;—at an early period of his existence, his front teeth are serrated, and as he increases in age, this saw-like appearance gradually wears out. At four years old, or perhaps sooner, it is no longer observable: the teeth turn yellow, fade, and drop out as the animal grows old; and if he be fed principally on bones his teeth become short and blunt at an early period. A dog, if worked hard, will turn grey at eight or nine years of age, and exhibit every symptom of decay—such as bad sight, loss of hearing, &c. Fourteen years is the general period al-

lotted for the life of a dog; but if he be kept to hard labour each season, he will seldom live so long.

The best time for a bitch to take the dog is the month of March, when the whelps will have all the advantages of the summer, and will have become sufficiently strong to endure the rigour of the hardest winter.

There are various methods recommended to prevent a bitch from taking the dog, if she happens to become *proud* at an improper period, most of which are ridiculous enough: I know of but two effectual remedies, the first is to keep the bitch under lock and key; where this is inconvenient, if her *shape* be touched with a red hot iron, so as to make it sufficiently sore, without seriously injuring the animal, she will not suffer the conjunction of the dog: the reason is obvious, the pain caused, under these circumstances, by his approaches, will induce the bitch to resist, and drive him off.

Dogs, and young ones in particular, should be kept in the country. If when a whelp be taken from its dam, it is fed upon light food, such as potatoes and buttermilk, with a little oatmeal, &c. and seldom or never indulged with carrion, or flesh of any kind, it will scarcely ever be attacked with the *distemper*, a disease which has been long known in this country, and which makes frightful havock among dogs bred in towns, highly fed, and which have little exercise:—exercise in particular is a very essential requisite to the health of young dogs.

In selecting whelps for the purpose of rearing, the sportsman will of course consult his own judgment, and will no doubt choose the most vigorous. Whelps may be taken from the dam at five or six weeks old, or so soon as they will lap sufficiently. If the sportsman is desirous of rearing more whelps than the dam can conveniently suckle, he must procure a foster-mother. If another bitch happens to pup about the same time, she will

adopt strangers, if her own are taken away, particularly if they are rubbed with her own whelps, or her own milk:—indeed a bitch will frequently suffer strangers and her own to suck at the same time. It is a bad plan to keep whelps in a stable, as they are very liable to be trod upon; indeed grown dogs are best out of the stable for the same reason.

When puppies leave the bitch, her teats should be anointed or washed several times, with warm vinegar and brandy.

My whelps are always reared in the country, and sleep in kennels in the open air, and I have never had a whelp (thus treated) even injured by the distemper. I feed them in the manner above described, and if they happen to be costive, I give them a table spoonful of syrup of buckthorn. However, with a view to ascertain the effect of a different mode of treatment, I took a whelp into the house, fed him plentifully with bones and flesh, and suffered him to lie before the fire and to take but little exercise. He was attacked with the distemper when he was nearly five months old, and died after lingering several weeks; but for a week before his dissolution, he became so exceedingly offensive, that it was impossible to keep him in the house. In another similar experiment, the animal, by good nursing and medicine, lived through the distemper apparently, but never enjoyed health; it was incapable of much exertion, and was at length attacked with convulsions, the violence of which increased to such a degree, that I was under the necessity of destroying it, at the age of fifteen months.

Spaying bitches or castrating dogs is a practice which I cannot recommend. The animals, shortly after the operation, grow extremely fat, and very soon become useless.

Worming puppies is a ridiculous operation:—it will not have the effect, which is erroneously attributed to it, namely, of rendering the animal incapable of biting when labouring under

paroxysms of hydrophobia*. How it ever could be supposed that extracting a sinew which runs longitudinally under a dog's tongue would have the above effect, is a matter of surprise; and I blush at my own thoughtlessness in adopting in several instances the foolish idea, the offspring of ignorance, and putting an animal to pain, where no possible benefit could ever be reasonably expected.

I have known cantharides given to a bitch, in order to induce her to take the dog. It is an injurious, and consequently a bad, method; and such as I should not recommend under any circumstances.

DISEASES OF DOGS.

It has been shewn, in the early part of this volume, that wild animals, reclaimed from a state of nature and domesticated, are susceptible of great change and variety in form, colour, and character; and owing, no doubt, to being thus compelled to assume in some degree, an artificial mode of life, they are rendered more liable to disorders. Animals in a state of nature are little subject to disease: and though the wild dog subsists on flesh and carrion, it is more than probable he is never troubled with what is distinguished by the appellation of the *distemper*, or any of that long catalogue of disorders, to which the dog is rendered obnoxious after having become the companion of man. However, thus much may be truly observed, that if a dog be properly fed and exercised, has plenty of good clean water, and his bed kept clean, he will not in general be much troubled with

* When a dog is labouring under the disease erroneously termed *dumb madness*, he is incapable of shutting his mouth, whence I suppose the idea originated.—See the article *Dumb Madness*.

disease; and this rule will be found to obtain more particularly if he be kept in the country.

THE DISTEMPER.—The distemper frequently attacks a dog before he has attained his first year. As a preliminary observation, is may be remarked, that the same membrane which lines the nostrils extends down the windpipe into the lungs; and the distemper, in the first instance, may be regarded as an inflammation of this membrane; which, if not timely removed, extends down to the lungs, where suppuration will soon be produced; when the animal's eye will become dull, accompanied by a mucous discharge, a cough, and loss of appetite. As the disease advances it presents various appearances, but is frequently attended with twitchings about the head, while the animal becomes excessively weak in the loins and hinder extremities; indeed he appears completely emaciated, and smells intolerably. At length, the twitchings assume the appearance of convulsive fits, accompanied with giddiness, which cause the dog to turn round: he has a constant disposition to dung, with obstinate costiveness or incessant purging.

On the first appearance of the symptoms which I have described, I should recommend the dog to be bled* very freely, and his body to be opened with a little castor oil or syrup of buckthorn: this will generally remove the disease altogether, if applied the moment the first symptoms appear. If, however, this treatment should not have the desired effect, and a cough ensues, accompanied with a discharge at the nose, give him from two grains to eight of tartar emetic (according to the age and size of the dog) every other day. When the nervous symptoms ensue, which I have already described, external stimulants (such as sal-ammoniac and oil, equal parts) should be rubbed

* The quantity of blood taken to be regulated by the age and size of the dog.—See the article *Bleeding*.

along the course of the spinal marrow, and tonics given internally, such as bark, &c.

Of the various remedies, the following was given with success to a dog, so afflicted as to be scarcely able to stand :—

Turbeth's mineral, six grains,

mixed with sulphur, and divided into three doses, one given every other morning. Let a few days elapse, and repeat the course.

Another :

Calomel, one grain and a half,
Rhubarb, five grains,

given every other day for a week.

Another :

Antimonial powder, sixteen grains,
Powdered fox-glove, one grain,

made into four bolusses with conserve of roses, and one given at night, and another the next morning, for two days.

I have known whitening administered for the distemper, a table spoonful every morning, with a little opening physic, occasionally.

I have uniformly found a complete cure effected from copious and repeated venesection in the early stage of the distemper, accompanied with a little opening medicine, syrup of buckthorn, for instance. In the kennel of Sir Harry Mainwaring, the distemper generally swept away a third of the young dogs at least. My system of treating the distemper has since been adopted with the most beneficial effect.

The following scientific description of the distemper and its mode of treatment, cannot fail to be highly interesting :

" A little black spaniel, six months old, very fat and playful, gradually became listless and irritable; his eyes suffused with water, his drooping ears, tenesmus, rough coat, dyspnœa, and frequent cough, announced that the disease called the Distemper was at hand. In this state he ran about for several days, when

the difficulty of breathing increased. His flanks beat violently, and he showed signs of feeling great pain when his sides were pressed upon. Soon after, he became slightly convulsed, and, by his continual and melancholy cry, both day and night, proved that he was suffering from severe bodily pain. The convulsions increased, and became incessant; his debility and emaciation were daily more apparent; and at the expiration of three weeks he died.

"For four days before his death, he lay in a supine, quiet state, perfectly conscious of what was passing near him; and it was only a few hours previous to his dissolution, that he became comatose, and perfectly insensible. During the whole period of his illness, there was no aberration of mind; he was irritable, snapped at those who approached him, foamed at the mouth, but did not refuse the small quantities of broth, milk, and other liquids, which were occasionally offered him.

"*Dissection.*—The carcass was lean, but on opening the abdomen, the omentum, intestines, and other viscera, were loaded with fat. The liver was of a dark dull red colour, congested with blood, the gall bladder distended with greenish bile, the stomach and intestines were discoloured with viscid yellow bile, some of which was contained in the stomach.

"The kidneys were free from disease, and the urinary bladder was full of urine.

"Thorax or chest—no preternatural adhesions or symptoms of inflammation of the pleura costalis existed. The lungs were highly inflamed, and of a dark brown colour, rendered heavy and solid by the effusion of coagulable lymph. On cutting into their substance, numerous drops of white purulent matter escaped from the bronchiæ, and on a careful examination they were found completely full and choaked up with matter.

"The trachea was inflamed, and contained a good deal of pus of the same nature.

"The heart and large blood-vessels adjoining were distended with dark, black, coagulated blood; the substance of the heart itself was much inflamed; and a small quantity of serum was observed in the cavities of the pleura and pericardium.

"A young fox-hound having died of the distemper, I proceeded to ascertain the causes of his death, and commenced with an examination of the nervous system. For this purpose a considerable portion of the cranium was removed, by first sawing through the frontal sinuses transversely, and continuing the instrument laterally and downwards through the occipital bone: the bony processes peculiar to carnivorous animals, which assist in forming the falx major, were taken away, and the brain fairly exposed to view.

"The frontal sinuses were filled with a thin white fluid, resembling pus, which flowed out freely from the opening made by the saw.

"The dura mater was perfectly healthy.

"The veins of the pia mater covering the left hemisphere of the cerebrum, were more dilated with blood than those on the opposite side. The substance of the brain was firm, and bore no appearance of disease; nor was there any alteration in the structure of the ventricles. The origins of all the nerves were clear and distinct. The olfactory pair were extremely large, and looked more like processes of brain than nerves. The pineal gland was present in the form of a small pellucid speck, and was seen in its usual situation at the posterior extremity of the third ventricle.

"The cerebellum, the pons varolii, and the medulla oblongata, were healthy; on dividing the latter, a little serum was found in the base of the cranium, and on holding the dog up by the hind legs, about two drachms more issued from the sheath of the spinal marrow.

"The lateral and cavernous sinuses were filled with dark purple blood.

"*Examination of the Spinal Marrow.*—An incision being carried from the occipital bone down to the sacrum, the muscles were dissected back on each side; and by several applications of the saw, the medulla was laid bare throughout its whole length. The spinal marrow, narrow at its origin, gradually increased in size as it descended to the joints. The dura mater was very firm, thin, and rather opaque. It could easily be separated from the medulla, which was of a beautiful white colour, consisting of two columns, each again divisible into several others; so that there was no appearance of disease to be discovered in the spinal marrow or its membranes; but as the vertebral veins were traced up the spinal canal, they became turgid and more full of blood, and when they had reached the middle of the cervical vertebra, they were greatly distended, and must by their pressure on the spinal marrow have influenced its functions.

"Having now completed the dissection of the brain and spine, the thorax and abdomen became the subjects of inquiry.

"The trachea was very large, and contained a purulent fluid; its mucous coat was inflamed and corrugated.

"The lungs presented a very peculiar appearance, especially the left, a large portion of which was converted into a substance of a yellowish brown, covered with dark black spots, and divided from the remaining healthy part, which was of a florid red colour, by a complete and distinct line of separation.

"The discoloured lobes, on being cut into, were solid, and evidently impervious to the admission of air. The bronchial tubes were full of the same thick white pus noticed in my former dissection, and which exuded in large drops.

"The right lung was entirely changed into a dark brown mass. The internal jugular and subclavian veins, together with the venæ cavæ, were distended with blood. The heart was enlarged, and the pericardium drawn tight over it. The left auricle and ventricle contained blood; but the right auricle and ven-

tricle were literally gorged to their utmost extent with dark grumous coagulated blood. There were no marks of preternatural adhesions or inflammation of the pleura costalis, nor was there more than one ounce of serum within its cavity.

" *Abdomen.*—There was a good deal of viscid yellowish bile in the stomach; its villous coat was inflamed and corrugated.

" The liver was of a dark red colour congested with blood.

" The gall bladder was full of a greenish bile.

" The urinary bladder contained a straw coloured urine.

" The kidneys, omentum, and peritoneum, were in a healthy state; but the intestines seemed to have suffered from the acrimony of the bile.

" *Remarks.*—From the preceding dissections it must be evident that the Distemper is an inflammatory disorder, more particularly affecting the mucous coats of the bronchial tubes, and that the great congestions of blood found in the heart and other vital organs must arise from the obstruction it meets with in its passage through the lungs. The particular time at which the disorganisation commences must depend on the violence of the symptoms; and it does appear that the disease can be divided into three natural stages:—

" 1st. The stage of fever and general excitement.

" 2nd. The deposition of coagulable lymph into the substance of the lungs: and

" 3rd. The effusion of matter into the bronchial tubes.

" In drawing this view of the complaint, the liver is not to be overlooked; and it would seem as if this organ was, by a general irritability of the system, excited to a state of unusual activity, and that thus, by the presence of an increased and vitiated state of the bile, the stomach and bowels were brought into a disordered condition, and their villous coats inflamed.

" Upon the epidemic, contagious, or other causes predisposing to the Distemper, it is not now my intention to offer any

remarks; but I shall proceed to the treatment which appearances after death would indicate.

"It is necessary for me to add, that I have no experience of its efficacy, nor do I pretend to say that it will be successful. Indeed the object of this paper is rather to induce those who may have daily opportunities of becoming acquainted with the complaint, by observing its causes, symptoms, and progress, to form an idea of its nature; and lastly, by the operation of remedies and *frequent dissections*, to arrive at some certain conclusions.

"*Treatment.*—At the commencement of the symptoms, or during the first stage of excitement, the dog should be bled freely, according to his age and strength. After which an emetic of tartarised antimony or ipecacuanha should be administered, and its operation promoted by mild bland fluids; moderate doses of calomel, opium, and antimony, should be given every three or four hours, and the excess of bile removed by occasional doses of castor oil. The dog should be immersed for twenty minutes in a warm bath, rubbed dry, and placed in clean warm straw; the temperature of his apartment should be moderately warm, taking great care to exclude the cold air, which must necessarily irritate the lungs. Having continued this plan for forty-eight hours, a mixture, consisting of nitre, fox-glove, and ipecacuanha, should be given three or four times a day until the urgent symptoms have subsided. Stimulants should never be given but when the animal appears much exhausted, and after the preceding measures have been adopted: a little white wine might then be put into the gruel, which should constitute his food from the primary attack. When recovering, little more than bread-and-milk or nourishing broths will be necessary.

"It occasionally happens that the irritability of the stomach is such that no medicines can be retained. Injections in these cases have been attended with beneficial effects; and therefore

a solution of starch with laudanum should be thrown up several times in the course of twenty-four hours: a blister also should be applied to the region of the stomach.

" With regard to the treatment of the second and third stages, when the first has been violent and neglected, very little can be expected from medicine. Bleeding would be highly injurious; and calomel, opium, and antimony, combined with expectorants, would most probably offer the greatest prospect of success. Strength should be carefully supported by a nutritious diet, but all strong cordials ought to be avoided.

" Although it is likely the fever accompanying the distemper has a peculiar character, I am decidedly of opinion that there is no specific remedy against this complaint: and it is better to point out the indications of cure, than to enumerate a long list of medicines with their respective doses, the selection of which must depend on the circumstances of each individual case.

RICHARD WILLIAMS, Surgeon."

Aberystwith, June 10, 1825."

I am not aware of any other remedies worth notice, though a great number might be added, if we could give credit to the stories retailed by dealers in dogs, as well as gamekeepers and huntsmen. Much will be found to depend on good nursing, and particularly to prevent the animal from taking cold.—From what I have witnessed of Blaine's medicine, I should not recommend it.

It is very advisable to inoculate for the distemper. If you can meet with a dog already afflicted, take a little mucous from his nose, and insert it up the nostrils of your whelp, after having prepared him by a dose or two of syrup of buckthorn; if the animal does not take the disease, repeat the operation. By inoculating for the distemper, the disease will be as much less severe, as the inoculated small pox compared to what is called the natural mode of taking it.

A dog rarely, if ever, has the distemper twice; nor does it often attack him after he has attained the age of two years; but frequently makes its appearance before the animal has reached his twelfth month. A notion became prevalent a few years back, that by inoculating a dog with the cow pock, the distemper would be prevented.

The Cow Pock.—Dr. Jenner has asserted that by inoculating dogs for the cow pock, a "disease similar to that which is called the dog's distemper is produced, but in a very slight degree. What is most remarkable, (adds Dr. Jenner) this inoculation renders them afterwards unsusceptible of that affection." Dr. Jenner is certainly no mean authority: but, having tried the experiment a number of times, from what I have witnessed, I can assert, that unless much more than ordinary pains are taken in the operation, no disease whatever will be produced; and when at length, pustules have been raised, they have not been attended with symptoms any way resembling what is called the distemper.

The catalogue of dog diseases is extended in some publications to a puzzling length, where the various ramifications or different stages of each disease receive a new name, in direct violation of that clearness and perspicuity so preferable, indeed so essentially requisite, in a statement of cases, many of which are frequently doubtful even to the skilful and experienced. Young dogs are very subject to worms, and appearances thus produced are too often mistaken for other disorders, receive various appellations, and are treated in the most injudicious manner. I have been informed that the following will cure the distemper; but I have never tried it; and am rather sceptical as to the fact:—

> One clove of garlic, given every or every other day, or according to the violence of the disorder.

Worms.—Dogs, like human beings, are subject to worm

diseases of various kinds. A disorder, generally distinguished by the appellation of *lank madness*, is produced by short thick worms, which occasionally breed in the animal's stomach and intestines. This, and what is denominated *sleeping madness*, appear to be merely two names for the same disease. When a dog is thus afflicted, he will become lean, though he will feed voraciously; as the disorder increases, his appetite in a great degree forsakes him; his eyes appear dull and drowsy, and he will manifest an almost continual inclination for slumber, without being able, however, to sleep soundly—

Take of calomel, six grains,
Common soap, two scruples,

made into two bolusses, one of which to be given at night, and the other the following morning; after two days, the same to be repeated, and in four days more, give the following:—

Extract of coloquintida, two scruples,

made into three bolusses, and one given every morning; on the fourth morning, give the animal a table spoonful of syrup of buckthorn. If the worms should not be entirely destroyed, in a little time repeat the course.

Dogs are often troubled with large worms, which, without medicine, are occasionally voided singly or in clusters. Their existence may be known by the dog's voracity and leanness. The best remedy is the preceding, though the following may probably answer the purpose:—

Calomel, three grains,
Jalap, twenty grains,
Golden sulphur of antimony, four grains,

mixed up with butter or lard into one dose. Three of these doses to be given—one every other morning.

A table spoonful or two of linseed oil, given the first thing in a morning, will frequently bring away a quantity of worms: but it can never be depended on as an effectual remedy, for the following reason:—upon the linseed oil being swallowed, those

worms with which it comes in contact, that are not fastened on the intestines, but loose, as it were, in expectation of food, will be brought away; but such as are fast to the intestines, (and many will be found so situated) stick like leeches, and thus prevent the effects of the oil. There is nothing so effectual as calomel. Calomel administered externally, in tolerable plenty, upon the human subject, will destroy worms in the stomach.—If the worms are situated near the anus, the calomel may be so completely absorbed, when taken inwardly, as to lose its effect before it reaches that part; some tobacco smoke blown up the anus (which may be easily done by inserting the thin end of a pipe) will most completely destroy these noxious vermin, and they will be voided, most likely, in prodigious numbers.

The remark which was made on the last article would equally apply in this place, respecting the numerous remedies prescribed for the same disease. What are mentioned throughout are such as will be found to answer the purpose; and to give a number of doubtful and ineffectual recipes, for the sake of making a long list, or giving a false air of importance to the subject, would be as perplexing to the reader as it would be contemptible and even dishonest, in the writer.

However, for worms, generally speaking, the following may be regarded as a sovereign remedy, and there are few cases which it will not effectually cure—take

Linseed oil, half a pint,
Oil of turpentine, two drachms *,

repeat the dose, if necessary.

Convulsions or Fits.—Complaints of this nature are sometimes caused by an accumulation of worms in the stomach, which in the first stage create giddiness, and end in violent convulsive paroxysms. When the complaint is to be attributed to worms, the animal will have an itching at the nose and funda-

* I am supposing for a full grown-dog.

ment, and will sneeze frequently. In this case, the best treatment is what has been already prescribed for worms. When convulsions proceed from other causes, which may be generally known by a wild appearance in the animal's eyes, frothing at the mouth, when labouring under the most violent paroxyms of convulsion, the dog may be recovered by being thrown into the water; perhaps a bucket of water thrown over him might answer the purpose: but this is merely a temporary relief; and to eradicate the disease, recourse must be had to something more effectual. In the first place, the animal should lose a few ounces of blood, (from three to six ounces, according to his size and strength) when the following should be administered:—

Jalap, one scruple,
Cream of tartar, half a drachm,
Water, one ounce,

mixed; half taken the morning after the dog has been bled; the other half in two hours after, well shaken:—a rowel should afterwards be put in the neck, and kept open for a considerable time: the following should then be given:—

Peruvian bark, half an ounce,
Water, half a pint,

boiled for a few minutes and strained; then add, sweet spirit of nitre, one drachm: a table spoonful to be given every two hours, the animal afterwards to be kept on a mild nourishing diet.

When convulsions arise from indigestion, the following has generally been found efficacious:—from two to eight grains of tartar emetic (according to the age and size of the dog), and in two days after give the following:—

Calomel, six grains,
Barbadoes aloes, half a drachm,

Divide into six doses, and administer one every, or perhaps every other, morning, as you may judge the patient can bear it; when you may give tonics, as recommended under the head *Distemper*.

What is called the *megrim*, or giddiness in the head, is a spe-

cies of fit, and may be removed by bleeding. The same disease is, by some, denominated *falling madness*, (a ridiculous name, certainly,) from, I suppose, the animal occasionally falling from giddiness. When thus afflicted, the dog will frequently rub his feet against the sides of his mouth, and appear as if he had a bone in his throat. Any of these symptoms will give way to the treatment just described; and where the disorder is not very violent, it may generally be removed by bleeding, which, as it has formed a principal feature for the last few pages, it may not be amiss to say a word or two on the best mode of performing the operation under a distinct head.

Bleeding.—In speaking on this subject, I am not supposing that the sportsman is a member of the medical profession in any of its branches, but sufficiently skilled in anatomy to know a vein from an artery, which is all the knowledge requisite for performing the operation of bleeding a dog. A vein* may be distinguished from an artery by its having no pulsation; if an artery of any consequence should be divided, the blood will flow in irregular gushes, it will be difficult to stop, and may cause the death of the dog. However, there is little danger of such an unpleasant circumstance happening, and an ordinary degree of attention is quite sufficient to obviate it. The most convenient and the best place to bleed a dog, is to open a vein (the jugular vein) *longitudinally*, in the side of the neck, round which a cord should be first tied; and if the sportsman is not expert at handling a lancet, he may purchase a fleam at any of the shops where surgical instruments are sold, which, by means of springs, is so contrived, that the greatest bungler need be under no apprehension. Those who sell this instrument will describe the method of using it, which indeed is so obvious at first view, as to render elucidation superfluous in this place.

* An artery brings the blood from the heart; a vein carries back the blood to the heart.

If, after the vein is opened, the animal should not bleed freely, pressure a little below the orifice will cause the blood to flow. When sufficient blood has been taken, (eight ounces, if a strong dog) the bleeding will generally subside; should this not be the case, a little fur from a hat will stop it, or the lips of the orifice may be drawn together with a needle and thread.

The vein should be opened *longitudinally*, as I have already observed; as, if opened in a transverse direction, it may be difficult to stop the bleeding, owing to the circumstance of the incision opening every time the dog holds down or stretches out his head.

Caustic or hot iron will stop bleeding, even when an artery is divided; or it may be sewn up.

Cold and Cough.—A cough arises from an irritation of the lungs, and may be produced by a cold or otherwise; it is generally the effect of cold, and may be removed by

Antimonial powder, five grains,
Calomel, four grains,

made with honey into two boluses, and given in the evening for two nights successively.

If a dog should be afflicted with a cough, in the first place examine his throat, in order to ascertain if any pieces of bone are lodged there, as such a circumstance will cause a dog to cough for weeks. If the cough arises from cold, administer a dose* or two of syrup of buckthorn. Should the cough still continue, give tartar emetic, as described under the head *Distemper*.

Formica, Scab in the Ears.—A little mercurial ointment rubbed upon the affected parts every two or three days, will very soon effect a cure.

Canker in the Lips.—Rub the affected parts with alum water two or three times a day:

* A table-spoonful is a dose for a common-sized dog.

Or, rub with bole ammoniac and burnt alum two or three times a day.

Swellings in general.—See *Inflammation*, page 82.

Films in the Eye.—Bathe the affected part twice a day with water in which a little vitriol has been dissolved, (the size of a large horse-bean to a pint of spring water) and in a minute or two wash it in clear water.

Or bathe with the following lotion twice a day:—

Sulphate of copper, one scruple,
Water, four ounces.

Sprains.—Sprains are painful swellings of the ligaments and tendons of the joints, and are caused by too great exertion of the limbs, of which the tendons become relaxed. They should be well rubbed with the following twice a day:—

Camphor, two drachms,
Brandy, one ounce.

When the camphor is well dissolved, add one ounce of sweet oil, and shake them well together. Should this not have the desired effect, try the following:—

Spirit of hartshorn, two drachms,
Sweet oil, six drachms,

well shaken, and applied as the other. Give a spoonful or two of syrup of buckthorn.

N. B. As sprains are attended with inflammation,* this should be got rid of in the first place by fomenting with warm water four or five times a day, and the following lotion applied:—

Extract of lead, two ounces,
Water, one pint.

Should any stiffness remain after the inflammation has totally subsided, apply a blister.

Wounds, and to stop an Effusion of Blood.—The following will be found very effective in wounds:

* See also the article *Inflammation*, page 82.

Spirit of sal-ammoniac, opodeldoc, sweet nitre, equal parts,
Wine, half quantity,
Spirit of turpentine, half quantity.

If an artery is wounded, it may be known (as before observed) by the blood gushing out, (not flowing regularly) and assuming a florid appearance. If a vein is wounded, the blood will be darker coloured, and flow regularly.

Wounds may be divided into two classes—*incised*, or those cut with a sharp instrument; and *contused*, or those inflicted with any thing blunt or heavy.

Slight wounds require little or no attention; but supposing a serious incised wound, the first operation should be cutting, or rather shaving, the hair from around the wound, when, if the blood continues to flow, it should be stopped by filling the wound with bits of sponge or dry lint; if the wound be in the dog's limbs, a bandage tied very tight just above it will materially assist in stopping the flow of blood, should not the sponge or lint be found sufficient. The edges or lips of the wound should afterwards be stitched, or drawn close together with adhesive plaister cut into slips long enough to extend three or four inches on each side; the number of slips must of course be regulated by the size of the wound: plenty of lint or soft rag should be laid on, over which a roller or bandage must be applied to confine the dressing, which should not be removed for four or five days. The wound should afterwards be dressed with *Turner's cerate*, sparingly spread on rag, and the bandage as before, and great caution used not to remove the adhesive plaister till the third or fourth dressing. A table-spoonful of syrup of buckthorn may be occasionally given to keep the animal's bowels open; and he must be muzzled, or otherwise so secured as to prevent his tearing away or disturbing the bandage.

Contused wounds are more painful than incised; always swoln, ragged, and not attended with much hæmorrhage or flow of

blood; no attempt should be made to bring the edges together, but a cold poultice applied, made with oatmeal and the following lotion:—

Goulard's extract of lead, one drachm,
Vinegar, two ounces,
Water, one pint.

The poultice should extend over the swelled parts surrounding the wound, and be renewed three or four times during the day. When the wound begins to suppurate or discharge, unaccompanied with blood, the cold poultice should be changed for a warm one, consisting of oatmeal and water in which there is a little grease, and renewed three times a day as warm as the dog can bear it. In a few days the matter will be completely discharged, when the wound should be dressed daily with yellow basilicon spread on rag, and a long roller applied tightly over.

N. B. Whenever *fungus* or proud flesh appears, it should be touched with blue stone.

Inflammation.—Inflammation arises from various causes, but is distinguished by the part affected becoming swoln, dry, and hot. A slight degree of inflammation will generally subside without the aid either of medicine or external application. Bleeding in the neck will frequently remove an inflammation; or the application of leeches to the affected part, having previously shaved the hair off. If the swelling or tumour becomes larger, soft, and shining, matter is forming, when warm poultices should be applied, as described under *contused wounds*, and the same treatment adopted. When the matter is completely formed (which may be known by the fluctuation of the fluid upon a slight pressure), if the skin is very thin, a deep opening or incision should be made with a lancet on the prominent part; but if hardness is felt, the tumour must remain till it breaks itself.—After the tumour is emptied, care should be taken that the air does not penetrate, or the wound will be much more difficult to heal.

When a dog's eyes become inflamed, and assume a red and fiery appearance, bleeding will generally relieve him.

Dogs, however, are not very subject to inflammation; and, generally speaking, will be troubled with few diseases if properly dieted and exercised. Dogs kept in towns are much more subject to disorders, than such as are kept in the country. Confinement is always injurious to health.

For the bite of another Dog.—See the article *Wounds*, &c. page 80.

Sore Feet.—Styptic tincture; or, if this cannot be procured, salt and water *

* "The most essential point about the dog is a good foot; for, without a good, firm foot, he can never hunt long. I never look at a dog which has a thin, flat, wide, and spread foot; they are not worth twopence.

"It has been a constant custom with me to wash my pointers' feet with strong salt and water after the day's sport. I have found my error, and am convinced that it is a wrong practice. I never altered my method until three years ago. A gamekeeper in Suffolk, seeing that a boy was washing my dogs' feet with strong salt and water, (his name was Cooper) said to me: 'Sir, I think you do wrong to wash your dogs' feet in salt and water at this early part of the shooting season, (it was the first week in September) at this time, Sir, when the ground is uncommonly dry, and as hard as a rock. If you will feel their feet, you will find there is a considerable degree of feverish heat in the dog's feet, from having hunted all the day on hard and dry ground. A dog, Sir, in such weather, should have his feet suppled and comforted. As long as the ground is dry and hard, I always wash my dog's feet with warm soap and water, and clean them well, particularly between the toes, and balls of the feet; this comforts his feet, allays the heat, and promotes the circulation in the feet. In the more advanced period of the season, when the ground is very wet, then salt and water may be proper.' I approved much of the reasons he gave; it shewed the sense of his practice, and the folly of mine: since that period I have taken his advice."—*General Hanger.*

For extracting Thorns.—Thorns may be generally extracted with the thumb and fore-finger nails; or recourse may be had to the assistance of the pen-knife in the same way as the sportsman would extract a thorn from his own finger. The dog will frequently perform the operation with his mouth. If the wound festers, the thorn may be squeezed out.

To bring Hair upon a scalded part.—Fresh hog's lard rubbed frequently upon the affected part, will reproduce hair; indeed, I am inclined to think that animal fat in general will have the desired effect. Fresh goose grease, or the fat of fowls, unmixed with salt, will answer the purpose equally well. Vegetable oils are of too dry a nature, and their effects, as applied to the growth of hair, pernicious. Yet there are not wanting quacks who daily advertise the sale of oil for the growth of hair on the human head; and by way of the strongest possible recommendation, specifically state, that it is extracted from vegetables! This is lamentable; but it is still more so, that such numbers of the unthinking become the dupes of these ignorant pretenders, whose existence is a stigma on the liberality of the public.

To destroy Fleas, Lice, &c.

Take of white arsnic, one drachm,
Water, one gallon,
Soft soap, one quarter of a pound,

boil for ten minutes; then take it off the fire and let it stand to settle, then pour it off into another vessel, leaving about half a pint at the bottom, which throw away, and dress with the water.—A certain remedy.

Linseed oil, or Scotch snuff, rubbed well all over the body is a temporary remedy. A good washing with common soap and water will perhaps answer the purpose.

In hot weather, dogs are much troubled with fleas; and if the sportsman is anxious for their comfort, he will find it necessary to use the above several times during the summer. Clean beds and cleanliness in general act as preventives.

To recover the Sense of Smell.—When a dog's olfactory organs become affected, it will frequently be found to arise from colds, costiveness, or other causes, which a dose or two of opening physic seldom fails to remove. A little sulphur or syrup of buckthorn will have the desired effect.

For Dogs that have taken Poison.—For all vegetable poisons, vinegar has been supposed to be a specific. At all events, whether vegetable or mineral poison has been swallowed, the sooner it is discharged from the stomach, the better.

Take of Sulphate of copper, half a drachm,
Water, six ounces.

Give two table spoonfuls every five minutes until effectual vomiting has taken place; when a strong dose of castor oil should be administered, followed by nourishing diet.

Whatever will cause instantaneous vomiting may have the desired effect. If a dog has swallowed poison, and no better remedy happen to be at hand, almost any kind of oil (rancid or otherwise) poured down the throat is advisable. The poison will most likely be either nux vomica, arsenic, or corrosive sublimate; however, let the poison be what it will, the best remedy is the following:—

Ipecacuanha, fifteen grains,
Water, two table spoonfuls, mixed.

Should it not operate in fifteen minutes, repeat the dose.—After the operation

Take of prepared kali, three drachms,
Water, one ounce,

give a table spoonful every fifteeen minutes, which will most likely produce vomiting and purging. Afterwards nourishing diet.

"*Antidote for Vegetable Poisons.*—M. Drapiez has ascertained, by numerous experiments, that the fruit of the fewillea cordifolia is a powerful antidote against vegetable poisons. He poisoned dogs with rhus toxicodendron, hemlock, and nux vomica. All those that were left to the effects of the poison died,

but those to whom the fruit of the fewillea cordifolia was administered, recovered completely, after a short illness. M. Drapiez also took two arrows which had been dipt in the juice of manchinelle, and slightly wounded with them two young cats. To the one of these he applied a poultice, composed of the fruit of the fewillea cordifolia, while the other was left without any application. The wound of the former speedily healed; while the other, in a short time, fell into convulsions, and died."

It is very difficult, however, to save the life of a dog that has taken poison. Nux vomica is what the base minded generally use for the purpose. If recourse can be had to the process before described, the moment the animal has swallowed the baneful drug, I should have no doubt of success; but if only a few minutes elapse, the cure is extremely doubtful. I have witnessed several instances, in all of which the animals died, though every exertion was used for their preservation. Perhaps the stomach pump might be successfully applied.

Sickness, or a Foul Stomach.—A foul stomach proceeds from indigestion; therefore eight or ten grains of tartar emetic may be very beneficially given, followed, in a day or two, by a purge of syrup of buckthorn.

Dogs are very liable to a foul stomach; but this is more particularly the case with such as are tied up or confined. If you tie a dog to a kennel for a few days, the moment you loose him, he will run in search of grass to eat, the broad blades of which he prefers; this will frequently cause him to vomit: whenever the animal is troubled with sickness or a foul stomach, he will uniformly have recourse to eating grass, though vomiting does not always follow.

A dog never perspires; but whenever he is unwell, his eyes very strongly exhibit the change, are a certain index of the state of his health, and assume a languid, a dull, or a fiery appearance, according to the nature of the disorder with which he

is afflicted. The powers of digestion in a dog do not appear to be promoted by exercise. If you take a dog into the field to hunt with a full stomach, he will throw up the contents of it in a few minutes, or at least in a short period. If you suffer him to sleep after a hearty meal, the digestion is rapid and healthy. This may be regarded as a general rule throughout animated nature. Give a dog a good supper on the evening prior to hunting, and the next morning, he will require little or nothing. I generally give my dogs a crust of bread in the morning when going out, which, however, they will not always stop to eat, so great is their anxiety for the expected diversion. Little food, and that of a light nature, will be found to answer best upon violent exercise—hence a man walks or labours much better after a breakfast, composed principally of tea or coffee, than after a heavy dinner. Cows, horses, and animals in general retire to rest after filling their bellies; a full stomach, I have no doubt, is the best to sleep upon; and I therefore differ very widely with those physicians who represent a good supper as injurious to repose.

The Common Mange.—This disorder is very infectious, and originally proceeds from dirty beds, bad food, and filth in general. It has a loathsome, scabby, dirty appearance, somewhat similar to the itch in human beings; and, like that disease, contains animalcula in each of the pustules. It may be cured with the following:—

Oil of tar,
Sulphur vivum,
Train oil, of each an equal quantity,

with which the dog should be well rubbed several times, a day or two elapsing between each rubbing. Sulphur given internally will be of service.

Another:—

Flowers of Sulphur, half an ounce,
Hog's lard or butter, one ounce,

well mixed, and rubbed completely over the animal twice a day, giving a tea spoonful of the flowers of sulphur every evening in a little molasses. Keep the animal confined alone, and the moment the cure is effected, give him a clean bed.—As the disease is very infectious, without great care, all your dogs will become disordered.

Mercurial ointment rubbed on the parts affected will remove this disease; but it is rather a dangerous remedy, and will kill a weak animal, if not carefully administered:—muzzle the dog.

An infusion of fox-glove leaves, I have reason to believe, will answer the purpose: it is the cleanest remedy; and though I have not had sufficient experience to pronounce its infallibility, I have no hesitation in recommending it:—put a handful of fox-glove leaves into a quart or three-pint jug, pour boiling water upon them; and, when cold, rub the dog every day for three or four days. The dog need not be muzzled—as soon as dressed he will attempt to lick, but will not take a second taste.

The following I have seen successfully used:—

Sulphur, two ounces,
Mercurial ointment, two drachms,
Hog's lard, four ounces,

well mixed: with which rub the dog every other day—three or four dressings will generally be sufficient. Two drachms of aloes, mixed up with the above, will not injure the composition, and will probably prevent the animal licking himself—otherwise, muzzle him. Chlorate of lime, I am informed, will cure the common mange.

The Red Mange.—The disorder called the RED MANGE does not appear to be nearly allied to what is so well known by the common appellation of MANGE, but to be a species of disease within itself, seated in the skin, and not always infectious amongst dogs lying together, but almost invariably communicated by a bitch to her litter of whelps, particularly if she had it upon her

during the time she was in pup. This disorder is most malignant in its effect; the incessant and severe itching, which, from all observation, seems accompanied by a burning heat, and this too increased by the perpetual biting and scratching of the tortured animal, give such parts of the frame as are severely affected, the appearance of having been scalded by some boiling liquor, with a consequent loss of hair. It is this distinct kind of mange that so constantly baffles dog-doctors and dog-mongers of every description, and reduces them to their *ne plus ultra*, where the fertility of invention can go no further. It is, perhaps, the most deceptive disorder to which any part of the animal world can become unluckily subject; for when it has (seemingly and repeatedly) submitted to, and been subdued by, some of the combinations of combustibles before described, it has as suddenly, as repeatedly, and as unexpectedly, made its re-appearance with all its former virulence. Great care, nice attention, and long experience, have discovered one or two modes of perfect eradication. Let half an ounce of *corrosive sublimate* be reduced in a glass mortar to an impalpable powder; to this, by a very small quantity at a time, add two ounces (half a gill) of spirits of wine; and, lastly, one pint of rain or river water, and, with a sponge dipt in the solution, let every part palpably affected be well washed, every third day, till thrice performed; then leave three clear days, and repeat the former ceremony of thrice as before; letting three *mercurial purging balls* be given at the equal distances of three or four days, and not the least doubt of cure need be entertained, if the mode prescribed is properly and judiciously attended to.

Of the red mange General Hanger thus speaks:—"My dog had the mange; not very bad, but something much worse with it: he had eight or ten large blotches on his body, as big as large hazel nuts. I sent for an old man who made a livelihood by curing dogs: he took a bottle out of his pocket, and first dab-

bed the blotches with a bit of tow, each two or three times.—He then stopped about five minutes for that to dry in and penetrate; after which he took a pot of ointment, and rubbed the dog in well, for at least ten minutes, under the fore legs, and on the belly, but *particularly on the back bone.* He then desired me not to wash the dog, or let him go into the water; telling me, he would call in about five days. When he called, the dog was apparently well; so much so, that he said he did not think it necessary to rub the dog again: however, I made him dab the blotches again, and rub once more in. When he called to be paid, I told him, that upon my honour, if he would discover how the liquid and ointment were made, I would give him two guineas, and never discover it till after his death. He consented. The liquid is thus made:—Half an ounce of quicksilver is put into a bottle, with half an ounce of oil of turpentine, for about eight hours before using it: shake the bottle frequently, and shake it always when you use it, for there will be a sediment at the bottom. The ointment is thus made:—Take half an ounce of quicksilver; put it in a bottle with half an ounce of oil of turpentine; let it stand for eight hours, shaking the bottle frequently; then take four ounces of hog's lard, and by degrees, mix both together, a little of each at a time, till the whole be incorporated. He told me that he always carried two pots of ointment with him, one stronger than the other, in case of a dog being very bad with the mange. The strongest ointment was made with only *three ounces* of hog's lard, but with the same quantity of the quicksilver and turpentine."

The following is an effectual cure;

Train oil, one ounce
black sulphur, one ounce
liquid blister, half an ounce

to be rubbed on the dog every other day.

For the bite of the Adder, &c.—The adder is not uncommon

in some parts of England, and is occasionally to be met with, in the heat of summer, among sedges, and in marshy places. It differs from the snake in not being so long, the latter being found from three quarters to a yard long; the former seldom, or never, reaching three quarters of a yard; there is an appearance of malignity in the countenance of the adder, which does not obtain in that of the snake, the head of which is not so blunt as that of the adder; while the tail of the latter tapers more abruptly, and it is generally found of a more dusky colour. There is, however, another very essential difference:—the snake is destitute of teeth; while the adder is not only prepared in this respect, but has one particular tooth, on each side of the jaw, which has a communication with a sort of alembic, situated in the reptile's head, and which contains the venom: in this tooth, there is a slit; and when the creature becomes irritated and bites, the pressure thus occasioned upon the tooth, causes the venom to ooze through the slit, and it is thus injected into the blood.

I have heard of a reptile, called the *slow worm*, the bite of which is said to be venomous; but I never saw one. The snake is perfectly harmless; the bite of the adder or viper will be attended with serious consequences if a remedy is not speedily applied. The remedy, however, is simple—the immediate application of sweet oil rubbed on the affected part, counteracts the effects of the venom most surprisingly: as I have witnessed it, I speak with confidence. Indeed, I am of opinion, that any vegetable oil (or animal either, perhaps) will answer the purpose; and have little doubt, that what will cure the bite of the adder will cure that of the slow worm also. Yet, for a further illustration of this subject, I will borrow the account of a favourite author. I am aware that the same account has already appeared in various publications; but, from a conviction that much good may result from its becoming generally known, I shall transcribe it without hesitation:—

"One William Oliver, a viper catcher, of Bath, was the first who discovered this admirable remedy. On the first of June, 1735, in the presence of a great number of persons, he suffered himself to be bit by an old black viper (brought by one of the company) upon the wrist and joint of the thumb, so that drops of blood came out of the wound: he immediately felt a violent pain both at the top of his thumb and up his arm, even before the viper was loosened from his hand: soon after he felt a pain, resembling that of burning, trickle up his arm; in a few minutes, his eyes began to look red and fiery, and to water much; in less than an hour, he perceived the venom seize his heart, with a pricking pain, which was attended with faintness, shortness of breath, and cold sweats; in a few minutes after this, his belly began to swell, with great gripings and pains in his back, which were attended with vomitings and purgings; during the violence of these symptoms, his sight was gone for several minutes, but he could hear all the while.

He said, that in former experiments he had never deferred making use of his remedy longer than he perceived the effects of the venom reaching his heart; but this time, being willing to satisfy the company thoroughly, and trusting to the speedy effects of his remedy, which was nothing more than olive oil, he forbore to apply any thing, till he found himself exceedingly ill and quite giddy. About an hour and a quarter after the first of his being bit, a chaffing-dish of glowing charcoal was brought in, and his naked arm held over it as long as he could bear, while his wife rubbed in the oil with her hand, turning his arm continually round, as if she would have roasted it over the coals: he said the poison soon abated, but the swelling did not diminish much. Most violent purgings and vomitings soon ensued; and his pulse became so low, and so often interrupted, that it was thought proper to order him a repetition of cordial potions: he that he was not sensible of any great relief from these, but that

a glass or two of olive oil drank down seemed to give him ease. Continuing in this dangerous condition, he was put to bed, where his arm was again bathed over a pan of charcoal, and rubbed with olive oil heated in a ladle over the charcoal, by Dr. Mortimer's direction, who was the physician that drew up the account. From this last operation he declared that he found immediate ease, as though by some charm; he soon after fell into a profound sleep, and after nine hours sound rest, awaked about six the next morning, and found himself very well; but in the afternoon, on drinking some rum and strong beer, so as to be almost intoxicated, the swelling returned, with much pain and cold sweats, which abated soon, on bathing the arm, as before, and wrapping it up in brown paper soaked in the oil."

Burns and scalds assume a very different appearance, according to the degree of heat or violence by which they are occasioned; if slight, and the skin only irritated, they are easily cured by instantly dashing the part affected in cold water, or constantly applying it till the pain and irritation have ceased; if slight blisters rise, they should not be opened at first, as is generally recommended; for if the air penetrates, it frequently produces an ulcer or sore. When a burn or scald is more severe, it must be constantly kept wet with rag dipped in the following lotion:—

Goulard's extract of lead, two drachms,
Water, half a pint,

and the part kept as quiet as possible. Strong spirits, or oil of turpentine, is also serviceable when immediately applied; but the lotion is the most successful treatment either in scalds or burns. After the third or fourth day the blisters should be opened, but the skin not removed, and then dressed with the following ointment:—

Olive oil, half an ounce,
Goulard's extract of lead, one ounce,

well mixed together, and spread on lint or soft rag, with a bandage over moderately tight.

When burns or scalds are so severe as to destroy the flesh from the bone, warm poultices of oatmeal and water should be applied, and then treated as *suppuration*.—See the article *Wounds*, &c. page 80.

The Hydrophobia.—This is a dreadful disease, and has received a very appropriate name, as human beings, *but not dogs*, when afflicted with this little understood malady, uniformly testify an abhorrence of water, and, I believe, of fluids in general, and even shining substances.

> "When Sirius reigns, and the sun's parching beams
> Bake the dry gaping surface, visit thou
> Each ev'n and morn, with quick observant eye,
> Thy panting pack. If, in dark sullen mood,
> The glouting hound refuse his wonted meal,
> Retiring to some close, obscure retreat,
> Gloomy, disconsolate, with speed remove
> The poor infectious wretch, and in strong chains
> Bind him suspected. Thus that dire disease
> Which art can't cure, wise caution may prevent."
>
> SOMERVILE.

The hydrophobia affords a striking instance of successful quackery in the avidity with which the *Ormskirk medicine* was purchased, till within these few years that the imposture has been exposed. This compound of calcined oyster shells, elecampane, roach alum, and bole ammoniac, was originally administered gratis; but no sooner was it discovered that the medicine was eagerly sought after, than the sale of it was advertised; agents were appointed in different parts; and many hundreds purchased and took the medicine who had been bitten, but not by *mad dogs*. A dog accustomed to the country is generally alarmed when he approaches a town or village; the shaking of a cobbler's apron, or some such thing, is frequently resorted to

by the lower orders—the terrified animal takes to his heels, and will most likely snap at any person who attempts to impede his progress. Nothing is heard but the cry of mad dog! and many who have been bitten under such circumstances, have called in the assistance of the Ormskirk medicine, and have thus been willing to suppose a disorder prevented, which did not exist in the dog, and which, of course, could not be communicated.

The venders of the Ormskirk medicine, however, made the most of the matter—its infallibility was *puffed* upon the public in the most barefaced manner; and it was even publicly stated, that such was the virtue of the medicine, that even after the hydrophobia had made its appearance, the disease could be removed by taking it. Cases, with fictitious names, were stated, and the grossest falsehoods resorted to, in order to levy contributions with more plausibility upon the credulity of the unthinking. I believe, at present, no person who wishes to preserve even an appearance of character, will attempt to palm the medicine upon the world; but it has still its supporters; and a number of old women, in various parts of Lancashire, still practice the deception, and show considerable dexterity in propping its falling reputation.

The recipe was obtained by the late Mr. Hill's father, who resided near Ormskirk, from an itinerant tinker, in the year 1704. The medicine is thus prepared:—take one tea-spoonful of prepared (calcined) oyster shells, one knife point full of roach alum, as much elecampane, in powder, and half a tea-spoonful of bole ammoniac; all to be powdered finely, and given to the patient in the morning fasting, in a little wine and water, or small beer: at the same time the wound is to be dressed with a preparation, varying from that just described only in a greater portion of roach alum.

Not one dog in twenty, reputed mad, is so in reality—the cure, or rather the prevention, therefore, is certain in many in-

stances; and where it happens otherwise, and the dog was labouring under the hydrophobia, the result is most melancholy; but then it is immediately and unblushingly asserted, that the medicine had not operated in a proper manner—it had not remained upon the stomach, or been taken in sufficient quantity; and thus the cheat continues, though on a much more circumscribed scale.

The fact is, that the only certain remedy hitherto discovered for this dreadful disease, is the application of the knife:—the blood becomes infected by the saliva from the dog's teeth; and unless the bitten part can be immediately cut out, death will most likely be the result, though the precise time will be very uncertain; for so capricious is this malady, that, after infection, it sometimes lies dormant, as it were, in the system for months, sometimes for weeks; while instances, I believe, are not wanting, where it has appeared in all its terrible symptoms in the course of a few days.

It is possible that a person might be bitten by a mad dog, and yet escape the hydrophobia: if, in the act of biting, the animal's teeth pass through a thick woollen coat, or other garment, so that his teeth in passing through are wiped dry, he might inflict a wound without any of the infectious saliva or fluid reaching it.

Respecting the bite of a mad dog, Dr. Vandeburgh very judiciously observes:—"not a moment should be lost to destroy the poison from the wound (even if only on supposition of the animal being mad); many remedies are recommended, but should not be trusted to; the only effectual method is to destroy the foundation of the poison, and give the following course of medicine:—the part bitten must be entirely cut out with a sharp instrument, and the edges of the wound seared with a red-hot iron, to prevent the smallest particle of poison remaining; afterwards, warm poultices of oatmeal and water to be applied as

hot as the patient can possibly bear, to produce a quick and copious discharge of matter or suppuration. The following pills should be given:—

Calomel, one scruple,
Opium, half a scruple,

well mixed and divided into ten pills of equal size, one pill to be taken every four hours; two drachms of strong ointment of quicksilver to be well rubbed in on the thighs and arms morning and evening, which, with the medicine, must be continued till the mouth becomes sore and spitting is produced: when matter discharges from the sore, it should also be dressed with strong ointment of quicksilver thickly spread on lint, and the poultice continued over it: this treatment must be pursued for the space of one month, then the wound healed with *Turner's cerate* spread on lint, but the mouth kept sore and slight spitting prolonged for at least two months, as hydrophobia has been known to make its appearance five and six months after the bite of the animal: sea-bathing is strongly advised; but I would always recommend the foregoing treatment in preference, a trial of which should not be omitted, if the poison was destroyed at first by cutting; neither if the bite has happened some time, nor even when the following symptoms have taken place: the part bitten becoming tender and inflamed, uneasiness and stupidity, frightful dreams, convulsions, eyes red and watery, pain all over the body, difficulty in swallowing, great thirst, and when liquid is only brought before the patient he appears choked, accompanied with trembling and shivering over the whole body; vomiting bile frequently occurs, attended with great thirst and fever: the last symptoms are raging and foaming at the mouth, spitting at the bystanders, and strong convulsions, as if drawn double;—no patient should be given over till the last moment: the mercurial friction should be tried, and the prescribed medicine given while

he exists, as there is hope of recovery by perseverance in the foregoing method.

" The patient should be kept on very low diet, and no spirits or wine be used."

The following are the progressive symptoms of hydrophobia: when a dog becomes melancholy, droops his head, forbears eating, seems to forget his former habits, and as he runs snatches at every thing: if he often looks upwards, and that his tail at its setting on be rather erect, and the rest of it hanging down; if his eyes be red, his breath strong, his voice hoarse, and that he drivels and foams at the mouth, you may be satisfied of the approaches of hydrophobia; and the only thing that should be done is instantly to despatch him, however great a favourite he may be. If at this period he should remain at liberty, he will certainly leave his home: he goes as fast as he can; and the mischief that may happen, owing thus to a mad dog breaking away, and running over an extent of country, is incalculable, as he spares no living creature.

The following accurate description, from the pen of Mr. Youatt, appeared in the Sporting Magazine, September, 1825:

" The symptoms of rabies in the dog are the following, and nearly in the order in which they usually appear:—An earnest licking, or scratching or rubbing, of some particular part; sullenness, and a disposition to hide from observation; considerable costiveness and occasional vomiting; an eager search for indigestible substances—as bits of thread, hair, straw, and dung; an occasional inclination to eat its own dung, and a general propensity to lap its own urine. The two last are perfectly characteristic circumstances. The dog becomes irritable; quarrels with his companions; eagerly hunts and worries the cat; mumbles the hand or foot of his master, or perhaps suddenly bites it, and then crouches and asks pardon. As the disease proceeds, the eyes become red; they have a peculiar bright and fierce ex-

pression; some degree of strabismus or squinting very early appears; not the protrusion of the *membrana nictitans*, or haw, over the eye, which, in distemper, often gives the *appearance* of squinting, but an actual distortion of the eyes; the lid of one eye is evidently more contracted than the other: twitchings occur round that eye; they gradually spread over that cheek, and finally over the whole face. In the latter stages of the disease, that eye frequently assumes a dull green colour, and at length becomes a mass of ulceration.

"After the second day, the dog usually begins to lose a perfect control over the voluntary muscles. He catches at his food with an eager snap, as if uncertain whether he could seize it; and he often fails in the attempt. He either bolts his meat almost unchewed, or in the attempt to chew it suffers it to drop from his mouth. This want of power over the muscles of the jaw, tongue, and throat, increases, until the lower jaw becomes dependent, the tongue protrudes from the mouth, and is of a dark and almost black colour. The animal is able, however, by a sudden convulsive effort to close his jaws, and to inflict a severe bite.

"The dog is in incessant action: he scrapes his bed together, disposes it under him in various forms, shifts his posture every instant—starts up, and eagerly gazes at some real or imaginary object: a peculiar kind of delirium comes on: he traces the fancied path of some imaginary object floating around him: he fixes his gaze intently on some spot in the wall or partition, and suddenly plunges and snaps at it; his eyes then close, and his head droops; but the next moment he starts again to renewed activity: he is in an instant recalled from this delirium by the voice of his master, and listens attentively to his commands; but as soon as his master ceases to address him, he relapses into his former mental wandering.

"His thirst is excessive, (there is no hydrophobia in the dog)

and the power over the muscles concerned in deglutition being impaired, he plunges his face into the water up to the very eyes, and assiduously, but ineffectually, attempts to lap.*

"His desire to do mischief depends much on his previous disposition and habits. I have known it not to proceed beyond an occasional snap, and then only when purposely irritated; but with the fighting dog the scene is often terrific. He springs to the end of his chain—he darts with ferocity at some object he conceives to be within his reach—he diligently tears to pieces every thing about him; the carpet or rug is shaken with savage violence; the door or partition is gnawed asunder; and so eager is he in this work of demolition, and so regardless of bodily pain, that he not unfrequently breaks one or all of his tushes. If he effects his escape, he wanders about, sometimes merely attacking those dogs which fall in his way; and at other times he diligently and perseveringly hunts out his prey: he overcomes every obstacle to effect his purpose; and, unless he has been detected in his march of death, he returns in about four-and-twenty hours, completely exhausted, to the habitation of his master.

"He frequently utters a short and peculiar howl, which, if once heard, can rarely be forgotten; or if he barks, it is a short, hoarse, inward sound, altogether dissimilar from his usual tone.

"In the latter stages of the disease a viscid saliva flows from his mouth, with which the surface of the water that may be placed before him is covered in a few minutes; and his breathing is attended with a harsh grating sound, as if impeded by the accumulation of phlegm in the respiratory passages.

* In those instances of hydrophobia which have fallen under my notice, I have never observed the dog "plunge his face into the water up to the very eyes, and assiduously, but ineffectually, attempt to lap." On the contrary, the animal has always been capable of lapping, and has testified no symptoms of horror or disgust at the sight of fluids: however, in the disease called *Dumb Madness*, I have noticed symptoms similar to the above.

"The loss of power over the voluntary muscles extends after the third day throughout his whole frame, and is particularly evident in the loins: he staggers in his gait; there is an uncertainty in all his motions; and he frequently falls, not only when he attempts to walk, but when he stands balancing himself as well as he can. On the fourth or fifth day of the disease he dies, sometimes in convulsions, but more frequently without a struggle.

"After death there will invariably be found more or less inflammation of the mucous coat of the stomach; sometimes confined to the rugæ, at other times in patches; generally with spots of extravasated blood, and occasionally intense, and occupying the whole of that viscus. The stomach will likewise contain some portion of indigestible matter, (hair, straw, dung,) and occasionally it will be completely filled and distended by an incongruous mass. The lungs will usually present appearances of inflammation, more intense in one, and generally the left lung, than in the other. Some particular points and patches will be of a deep colour, while the neighbouring portions are unaffected. The sublinqual and parotid glands will be invariably enlarged: and there will also be a certain portion of inflammation, sometimes intense, and at other times assuming only a faint blush, on the edge of the epiglottis, or on the rima glottidis, or in the angle of the larynx at the back of it."

When the human species become unhappily the subjects of this calamity, though in particular instances some variation may be observed, yet the first symptoms are generally the same; these are torpid disquietude in the wound (or seat of injury,) attended with slight intervening itchings, ultimately amounting to pain, and much resembling rheumatic affection. It continues to extend itself to the surrounding parts; and, at length, from the extremities it expands its poisonous power to the viscera; the cicatrice, if there has been a wound, begins to swell, inflamma-

tion hourly increases, till, at length, a serous bloody ichor is discharged, and this alone may be considered the primary and invariable prognostic of certain hydrophobia. These leading symptoms soon become progressively general, bearing with them every appearance of confirmed rheumatism; they are fluctuating, quick, acute, and of the spasmodic, convulsive kind; they suddenly attack the patient, severely affecting the head, neck, and principal joints; a dull, drowsy pain often seizes the head and neck, breast, abdomen, and even vibrates along the back bone. The patient is gloomy and inclined to solitude, murmurs much, seems lost in reflection, is forgetful, inattentive, and prone to sleep; at times agitating starts denote the mind to be disordered; by turns he is attentively watchful; his slumbers become disturbed, and suddenly awaking from those, convulsive appearances soon follow.

A deafness is sometimes complained of, the eyes are watery; the aspect sorrowful; the countenance pale, and the face contracted: sweat breaks out about the temples; an unusual flow of saliva, slimy and viscid, at length comes on with a dryness of the fauces, a foulness of the tongue, and a disagreeable smell (or rather fetid effluvium) from the breath. As the symptoms already recited increase, the second stage advances: a fever commences, which at first is mild, but makes with gigantic strides the most rapid advances to extremity; it is accompanied with hourly increasing horrors, and all the alarming concomitants of mental derangement. Wakefulness becomes perpetual; violent periodical agitations ensue; the mind is evidently more and more disturbed; a delirium follows, at which critical moment an invincible aversion to *fluid, glass*, or any polished or shining body is plainly perceived. A constriction of the gullet takes place, and an incredible difficulty of swallowing ensues; liquids are offered, and are attempted to be taken, but the disgust and loathing become so predominant, that they are most violently declined; and this

symptomatic dread and aversion so wonderfully increases, that, upon the very appearance of any watery fluid, the greatest horror comes on, and the most shocking muscular distortions ensue; if the liquor is attempted to be forcibly pressed upon them, the experiment is rejected by an instantaneous succession of the most horrid gesticulations, and convulsive distortions, in which every ray of reason seems to be absorbed. Upon a temporary cessation of so distressing a paroxysm, the poor unhappy patient now murmurs, mourns, and groans most miserably; loses, by degrees, all knowledge of his dearest friends and most familiar acquaintance: and their presenting themselves before him, is the very critical moment when all of this description give proof of their desire to bite, which, in the attempt, bears no ill affinity to the similar snappings of a village cur.

Awful to relate, reason returns at intervals, and he feelingly laments his own calamity, and deplores his own incapacity. A consciousness of approaching dissolution is perceptible even to himself, and he seems truly resigned to the singularity of his fate. Severe pain and consequent heat producing thirst, a desire to drink is displayed, but nature shrinks from her office; in vain the patient raises his hand to touch the vessel, it almost magically produces instant tremor—the hand recedes, and he sinks into the most afflicting despondency. Conscious, likewise, of his constantly increasing inclination to bite, he, in his rational moments, makes signals to warn his friends of the danger, and keep themselves at a distance. Towards the conclusion of this dreadful and most melancholy scene, the fever and parching thirst increase, the tongue becomes swelled and protruded, foam issues from the mouth, strength fails, cold sweats come on, the stricture on the breast increases, as well as the other predominant symptoms, until, in a long succession of convulsive struggles, all-powerful death closes the scene.

The cause of the hydrophobia is utterly unknown; and its ef-

fects hitherto appear to have baffled every remedy which has been tried for its removal. Copious and repeated venesection was, a few years ago, announced to the world as a cure for the hydrophobia, and instances were given in order to confirm it: it is true, they came in a questionable shape on account of the distance they had to travel, being chiefly from the East Indies; however, the method just mentioned, has been tried in this country and found unavailing.

The *alisma plantago* was introduced as a remedy; but, on repeated trial, has proved ineffectual.

Another remedy has been introduced. This new remedy comes from a distance, but let us not reject it merely on that score. The account has appeared in several medical works, and was first published, it seems, by *Dr. Muller*, of Vienna, a scientific physician, now resident at Paris. The German physician says, he received the particulars from M. Marochetti, a Russian surgeon, who informed him, that, during his residence in the Ukraine, in the year 1813, he was called on to attend *fifteen* persons who had been bit by a mad dog, when some old men requested him to treat the unfortunate people according to the directions of a neighbouring peasant, who had acquired a great reputation for curing the hydrophobia. M. Marochetti allowed the peasant to attend *fourteen*, reserving one to himself, a female of sixteen, who was cauterized and treated in the usual way, and expired *eight days after the attack*. The peasant gave to the fourteen persons placed under his care a strong decoction of the tops of the flowers of the *yellow broom* (a pound and a half a day.) He examined twice a day the under part of the tongue, where he had generally discovered little pimples, containing, as believed, the hydrophobic poison: these pimples really followed and were observed by Marochetti himself. As they formed, the peasant opened them, and cauterized the parts with a red hot needle; after which, the patients gargled with the decoction mentioned

above. The result of this treatment was, that the fourteen patients were cured, having only drank the decoction for six weeks. Marochetti then states, that, five years afterwards, he himself had an opportunity of giving this treatment another trial.—Twenty-six persons who had been bitten by a mad dog, were put under his care, viz. nine men, eleven women, and six children: he ordered the decoction of the tops of the flowers of yellow broom to be given them as soon as possible; and upon an attentive examination of their tongues, he discovered pimples on five men, three children, and all the women. Those who were most wounded were afflicted on the third day: the others on the fifth, seventh, or ninth. One of the women who had been slightly bitten in the leg had no appearance till the twenty-first day. The seven who were free from pimples took the decoction of broom for six weeks, with success. M. Marochetti thinks that the hydrophobic poison, after having remained in the wound, fixes itself under the tongue, in the orifices of the ducts of the submaxillary gland, which are situated on the sides of the frænum. The inflammation, of which the little pimples are the result, has a peculiar appearance. The time in which these pimples appear, is generally between the third and ninth day after the bite. If they are not opened before twenty-four hours after their appearance, the venom is absorbed and the patient is lost.

I shall be extremely anxious to hear of the success of this mode of treatment nearer home; for I must confess I cannot place implicit confidence in the narrative.

Were I bitten by a mad dog, I should as soon as possible cause the wound to suppurate, and continue the suppuration for a considerable period.

Dumb Madness.—Upon the disease, erroneously denominated Dumb Madness, I will relate what fell under my own observation, and from which a tolerable idea of the disorder may be formed:—In the month of May, 1823, a pointer whelp was

presented to me by a friend, which I knew to be as well bred as any in the kingdom, and on that account, I, of course, prized him more highly. The dog was whelped on the 16th of April, of the same year; and as soon as I received him, a kennel was appropriated for his use in the open air, well littered with wheat straw, and kept clean. He had full liberty, and a clear stream of water close at hand, to quench his thirst whenever he thought proper. The dog, as might be expected, was remarkably healthy; and, at seven months old, had become an amazingly fine animal: at this period, he experienced a slight attack of the distemper, which immediately gave way to bleeding and a dose of tartar emetic; and in three or four days he was restored to perfect health. His colour was a perfect jet black; he was larger than common, and altogether, the finest young pointer I ever saw. On the 8th of January, (of the following year,) I observed the dog keep his mouth almost continually open, the inside of which appeared darker coloured than usual, and somewhat swelled. I immediately bled him copiously, which, however, produced no visible alteration; on the contrary, the next day all the symptoms had evidently increased, and I observed that he was unable to swallow, though he made many attempts both to eat and drink, particularly the latter: but the water or the milk, which, by putting his nose into the vessel, he contrived to get into his mouth, uniformly run out again, and he appeared utterly unable to pass it down his throat: he licked his fore-legs very much, and seemed to have a trifling discharge of mucus, or saliva: but all this time the dog appeared not only perfectly sensible, but even in good spirits, and evidently experienced but little pain. A sporting acquaintance, who saw him, said the disease was what was distinguished by the appellation of *dumb madness*, which seems to me altogether a ridiculous term; and supposing this to have been the disorder with which my dog was affected, I can testify that the term is very improperly ap-

plied, as the animal in question regularly barked on the approach of a stranger, though in a different tone, and with more difficulty than usual. However, I immediately searched authorities for *dumb madness*, with a view to ascertain the proper mode of treatment. In an old writer, (the author of the "Gentleman's Recreation,") I found it thus described:—"The dog that is troubled with dumb madness will not feed, but holds his mouth *wide* open continually, putting his feet to his mouth frequently, as if he had a bone in his throat." Now, though my dog kept his jaws somewhat distended, his mouth was not *wide* open, but only partially so, and that he was able to shut it I can safely attest, as I saw him many times close his jaws, though he never kept them more than a second or two in that position; further, the animal frequently licked his fore-legs, but I never saw him raise his feet, or otherwise use indications similar to those adopted by a dog when he seems to have a bone in his throat; and therefore the cases did not appear to agree.

I had next recourse to the "Sportsman's Dictionary, or Gentleman's Companion;" the third edition of which was published in 1783, which contained the following observations:—"Dumb madness *lies in the blood*, and causes the dog not to feed, but to hold his mouth always wide open, frequently putting his feet to his mouth, as if he had a bone in his throat."

To be brief—I perused every thing within my reach, on the subject of dogs and their diseases, but without gaining the least information; and, as the disorder, at least in the form in which it presented itself, was new to me, I began to entertain fears for the life of my dog, and the sequel will prove they were but too well founded. I have already remarked, that I first perceived the disease on the 8th of January, and the dog continued much in the same way for four successive days, during which, all his faculties appeared very little, if at all, impaired. He would follow me into the field, and even hunt, frequently at-

tempting to drink, and, in order to accomplish that desirable object, would thrust his nose into the water, instead of attempting to lap; but he never succeeded in forcing any of the fluid down his throat: his sense of smell was as perfect as ever; and, indeed, though he evidently became very lean, he might be said to be in good spirits till the morning of the 13th, when I found him very languid, his eye had lost its lustre, and death was evidently fast approaching. He was perfectly sensible, and whenever I approached and spoke to him, he raised his heavy eyes, aad by these, as well as by the movement of his tail, appeared grateful for my attention. Towards the evening he made a last effort to swallow food, but was not able. On the following morning he was stretched on his side, and had every appearance of death, only that a breathing, at very long intervals, proved that the vital spark was not absolutely extinct. Some few hours afterwards he was perfectly lifeless; and I was resolved, if possible, to ascertain the cause of his death. For this purpose I called in the assistance of a skilful veterinary surgeon, and the animal was dissected in my presence. On opening the body, it was abundantly evident that the dog had been starved to death; or, in other words, had died for want of food. The lungs, the liver, and, indeed, all those parts of the animal organization, were totally unaffected, and manifested not the slightest symptom of disease; the same remark will equally apply to all parts of the throat, and also to the brain; and the only affection that could be discovered, was in the salivary glands, which were triflingly swelled. On the whole, I feel a perfect conviction, that the disorder of the dog was a glandular affection, which, by rendering him incapable of swallowing sustenance, caused his death.

Of the cure, should a similar case come under my observation, I feel confident; and I have been thus minute for the information of sportsmen in general, particularly as I have been

informed, that the disorder which I have attempted to describe or something very much resembling it, has carried off, within the last few years, great numbers of valuable dogs, especially in Yorkshire. Should a similar case occur with any of my dogs, I should force food, (nourishing broth, for instance,) down the throat, with an instrument adapted for the purpose; and if I found it impossible to get it down, I would inject it into the bowels, when a sufficient quantity would be taken up by the absorbents, to sustain life till the disease of the glands abated. In the first place, I should feel a disposition to bleed the afflicted animal, as this would prevent any superabundant pressure of blood upon the parts affected, which I might perhaps rub well with mercurial ointment.

It is a lamentable fact, that so little attention has been paid to the diseases of this invaluable animal, though no creature which has yet been taken under human protection affords so good an opportunity for observation, or is so much entitled to the assistance and kind offices of its master. The dog has become a domestic of the most familiar description, whose greatest delight is in administering to the pleasures of the sportsman, or those by whom his services are called into action; his civilization may be said to proceed in the precise ratio with that of human nature, and he uniformly takes his tone from the circumstance or the situation of his master. As he has closely associated himself with man, therefore, he has brought upon himself a train of diseases, resulting from his artificial mode of life; and from which, in a state of nature, there is little doubt, but he is altogether exempt. In fact, living under the same roof, and in the same manner, as his master, he seems to be afflicted something in the same way; and, upon close examination, it will be found, that many of his disorders bear a strong resemblance to those in man, and would, I have little doubt, give way to a somewhat similar treatment. Thus circumstanced, it seems

unaccountable that the medical treatment of this faithful creature should have been so neglected. Generally speaking, whenever a dog is attacked with any disease, little trouble is taken in his recovery; food is offered him, and if he is able to eat it and recovers, it is all right; but it very frequently happens, that the moment he exhibits symptoms of indisposition, he is suspected of hydrophobia, and, without any attempts to alleviate his pains, he is placed in a situation of security, and either suffered to pine away, or is prematurely despatched. This may not apply altogether to sportsmen, perhaps; though many of these, I have not the least doubt, pay but little attention to the matter. In kennels of hounds, and other large dog establishments, there is a certain method followed; or, in other words, there is a list of disorders which is supposed to be understood by the huntsman, or game-keeper, and, in like manner, a regular list of antiquated applications or medicines is placed, as it were, opposite the disorders: now, if the medicines were positively applicable to the diseases, is it likely that the latter are so understood, that one is not frequently mistaken for another? Or, can it be supposed, that the persons in question are sufficiently skilled in the science of healing, so as to discern those turns or alterations by which the same disease assumes a different form, and, accordingly, requires different treatment? This is too much to expect. Huntsmen and gamekeepers, also, are generally much attached to their dogs, and seldom fail to show them considerable attention, when they are diseased; and though I may have met with some who possessed acute perception and sound sense, yet, in order to acquire a thorough knowledge of the subject on which I have been speaking, a superior education seems indispensable, as well as much more extensive practice than could possibly be afforded by any one dog establishment in the kingdom: if extensive practice be necessary to the physician and the surgeon, why not to the dog doctor also? In any science or profession where the

success must depend very much upon the practitioner's powers of perception, some degree of education is not only indispensable, but superior abilities or considerable genius also. It is not likely, that the requisite opportunities and qualifications will be found united in many instances; and, under such circumstances, I would strongly advise sportsmen to pay as much attention to their diseased dogs as possible; and whatever reliance they may place upon their servants, it can do no harm to watch the progress of the disorder themselves.

Many sportsmen of the old school, in their treatment of the diseases of dogs, seem to have resorted to superstitious notions, and to have disregarded true philosophy altogether; so much so, indeed, that it is amusing to read many of their ideas on the subject. It is possible, however, that dog-diseases might formerly have existed, which are unknown at the present day; but a disease called the *Yellows*, that has sometimes appeared in kennels of hounds, I never say described in any publication, but "*Johnson's Hunting Directory;*" nor is it generally known even among sportsmen, though, wherever it has appeared, its effects have been very violent, and frequently attended with fatal consequences.

The Yellows.—This would appear to be a disease peculiar to the kennel, which makes its appearance in all ages of the dog. In the first approaches of the *yellows*, the animal loses his appetite, and of course appears dull. On turning up his eye-lids, a yellow appearance presents itself; the inside of his flanks exhibit a similar hue or colour. Hence it would seem that the disorder is something of a bilious nature; or, at least, it assumes a complexion which would seem to warrant such a conjecture. At all events, if it be not immediately checked, it will end with the death of the dog. This disease, which is not of an ancient date, made considerable havock in many kennels, till at length, the following treatment was found efficacious:—As soon as the

dog is perceived to be ill, four grains of calomel should be administered to him, and he should be kept warm during their operation. Then take

Rhubarb, one ounce,
Aloes, half an ounce,
Castile soap, half an ounce,
Œthiop's mineral, half an ounce.

These should be mixed up with syrup of buckthorn, and made into boluses about the size of a nutmeg; one of which should be given every morning for three successive days, when one may be administered every other morning for a week, or longer if necessary. For this method of treating the *yellows*, I am indebted to W. Head, Sir Harry Mainwaring's huntsman; which, he informed me, he had found successful almost invariably.

Lameness in the Shoulder may also be regarded as a disease of the kennel. This seems to be produced by damp kennels, and may be prevented by the administration of warmth, though it cannot always be cured when it has taken place; yet I am inclined to think that warmth is the best remedy, as well as an absolute preventive.

TRAINING DOGS FOR THE GUN.

Under this head I shall first observe, that, by proper attention to breeding, the sportsman will have very little trouble in training. A well-bred dog, either setter or pointer, will generally require very little instruction, as he will, particularly if taken out young, set and back of his own accord. For an illustration of this remark, I refer the reader to what has been said under the heads *Setter*, page 12, and *Pointer*, page 16.

I know it is a received opinion that those dogs which are

very difficult to reduce to the required subordination, prove, when thoroughly subdued, superior to all others. From experience, I will venture to pronounce this a hasty opinion:—These hardy, untractable animals, are chiefly the offspring of the pointer and setter, or, at least, cross bred; and are, after all the painful flagellation, and endless trouble in training, no better than a good dog of a milder and more pliable disposition, nor yet so good, as unqualified reliance can scarcely ever be placed on them: indeed, after repeated trials of dogs of this description, I have become so disgusted with them, that I would not, on any account, take the trouble of another experiment.

However, in order that this chapter may be complete, it will be necessary to detail the regular progressive mode of training a dog, under the supposition that many will be found, amongst the very best-bred animals, which require every instruction from the sportsman.

In the first place, then, it is indispensably necessary that the sportsman should procure dogs whose breed is unexceptionably good, as well-bred dogs are more than half broke the moment you take them into the field. The dog is an animal possessed of an uncommon degree of sagacity;—in short, he has *reasoning powers* to a very great extent, which may be converted to the pleasure or the service of his master; yet, in this respect, dogs will be found to vary very much; and while some will appear to exhibit *instinct* merely, others will be found to evince a degree of acuteness very similar to reason. There is a countless variety of the dog tribe, many of the nondescript ramifications of which, with an ugly and diminutive form, seem to sink much below the general level of the canine tribe in sagacity, while the nobler kinds appear to rise in the scale of importance in proportion as they are judiciously bred, and afterwards cherished by the fostering care of their human protector.

The most sagacious of all the varieties of this highly inter-

esting animal is, without dispute, the *Newfoundland dog*. His olfactory organs are of the first order; yet, as from his heavy, long, and loose form, he is unable to support the fatigue of a day's range, he, on this account *alone*, is ill calculated for the shooting sportsman. Similarly important disqualifying observations would apply to most of the other varieties of the dog, till we come to the *pointer* and *setter*, which appear altogether most admirably adapted to the purpose for which they are so generally used. We may, however, remark, that the mere pointing or setting is by no means confined to these two particular kinds; on the contrary, terriers, hounds, and all dogs inclined to hunt, may be easily taught to *point* or *set;* or, in other words, to pause or stop, on their approaching game. Indeed, there are few dogs given to hunting but will point *naturally*, in the course of a little time, which arises no doubt from the following reason: as a young dog ascertains his proximity to game by his sense of smell, so, on his near approach, he is eager to seize it; but finding, after repeated trials, that he is unable to accomplish his purpose, he becomes more circumspect or wary, and will be observed to *pause* for a short space, and then make a sudden rush to secure his object. This pause is, no doubt, for the purpose of ascertaining, by his olfactory organs, the exact spot where the game is seated; and the observation of this very circumstance, there is not a doubt, originated the idea of the setting dog; the sportsman carefully improving, by education, a quality which he easily discovered would so essentially conduce to the pleasures of the field.

From a perfect conviction of the incontestible truth of what I have stated, namely, that *all dogs which will hunt may be taught to stop, to point, or to set*, I have not been a little surprised at the following passage, which I copy from Daniel's *Rural Sports:*

" Upon no account accept or keep a spaniel (it is needless to tell a sportsman not to *breed* from) which has any taint of the

hound in his pedigree, although for generations back; they will be sure to hunt hare in preference to winged game, and the stock may be crossed everlastingly, may attain beauty, strength, symmetry, yet this latent spark of the harrier will never be extinguished, and they will always show their predilection for hare whenever they have opportunity, and this generally happens when their goodness is mostly required; namely, in coverts where the winged game is preserved, and there, for the most part, hares are also in the greatest plenty. A stronger instance could not well be exhibited, than in the spaniels of the deceased Lord Waltham and Mr. Hoare: a road only parted the seats of these two gentlemen, and their game-keepers frequently shot in the woods together; their dogs were equally handsome; but those of the former would drive hares the day through, and consequently sprung every thing that accidentally laid in their course; whilst those of the latter no more ran hares than they did sheep; they would indeed find the hares, but follow no farther than they saw them: they were always in their places, twisting aroung every stub with that agility, and possessed such fineness of nose, that neither woodcock nor pheasant could escape their search. Lord Waltham's spaniel bitches had originally a cross of the beagle, and although this was tried to be remedied by resorting to the best dogs, the tendency to hare could never be subdued."

Now, what does this prove? Why, that the reverend gentleman possessed but a very vague idea of the subject which he professed to elucidate: it proves also that Lord Waltham's keeper, like the Rev. W. Daniel, did not understand the business. And yet the author of the *Rural Sports*, in speaking of Colonel Thornton's Dash, (page 344, vol. iii. 8vo edition,) which he represents as the best pointer which had ever been known, says, at the same time, that "*he had a close cross from the fox-hound*," and this, too, is a mode of producing pointers which he recom-

mends. It follows, consequently, from a parity of reasoning, that if crossing the spaniel with the beagle was injudicious, the foxhound cross with the pointer must have, at least, been equally so. It would seem strange, indeed, if spaniels could not be prevented from chasing hares, since the fox-hound, the most intractable perhaps of any of the dog tribe used in the pursuit of game, is not only restrained from pursuing hares, but also from following any other animal, and kept as steady as possible to the pursuit of the fox.

Taking it for granted, therefore, that all dogs which will range for game will naturally pause or set, yet none of the various kinds seem so quickly to adopt this sagacious manœuvre as the pointer or setter;* nor is any one of them every way so ad-

* Richard Toomer's black sow acquired a method of pointing.—"Slut was bred in, and was of that sort which maintain themselves in the New Forest without regular feeding, except when they have young, and then but for a few weeks, and was given when about three months old to be a breeding sow, by Mr. Thomas, to Mr. Richard Toomer, both at that time keepers in the forest. From having no young, she was not fed, or taken very little notice of, until about eighteen months old, was seldom observed near the lodge, but chanced to be seen one day when Mr. Edward Toomer was there. The brothers were concerned together in breaking pointers and setters, some of their own breeding, and others which were sent to be broke by different gentlemen; of the latter, although they would stand and back, many were so indifferent, that they would neither hunt nor express any satisfaction when birds were killed and put before them. The slackness in these dogs first suggested the idea, that by the same method any other animal might be made to stand, and do as well as one of those huntless and inactive pointers. At this instant the sow passed by, and was remarked as being extremely handsome: R. Toomer threw her a piece or two of oatmeal roll, for which she appeared grateful, and approached very near; from that time they were determined to make a sporting pig of her. The first step was to give her a name, and that of Slut (given in consequence of soiling herself in a bog) she acknowledged in the course of the day,

mirably adapted as an auxiliary to the fowling-piece. Next to the Newfoundland dog, on the score of powerful instinct, or ani-

and never afterwards forgot. Within a fortnight, she would find and point partridges or rabbits, and her training was much forwarded by the abundance of both which were near the lodge; she daily improved, and in a few weeks would retrieve birds that had ran as well as the best pointer; nay, her nose was superior to any pointer they ever possessed, and no two men in England had better. They hunted her principally on the moors and heaths. Slut has stood partridges, black-game, pheasants, snipes, and rabbits, in the same day, but was never known to point a hare. She was seldom taken by choice more than a mile or two from the lodge, but has frequently joined them when out with their pointers, and continued with them several hours. She has sometimes stood a jack snipe, when all the pointers had passed by it: she would back the dogs when they pointed; but the dogs refused to back her until spoke to, their dogs being all trained to make a general halt when the word was given, whether any dog pointed or not; so that she has been frequently standing in the midst of a field of pointers. In consequence of the dogs not liking to hunt when she was with them, (for they dropped their sterns, and showed symptoms of jealousy,) she did not very often accompany them, except for the novelty, or when she accidentally joined them in the forest. Her pace was mostly a trot; was seldom known to gallop, except when called to go out shooting; she would then come home off the forest at full stretch, (for she was never shut up, but to prevent her being out of the sound of the call or whistle, when a party of gentlemen had appointed to see her out the next day, and which call she obeyed as readily as a dog,) and be as much elevated as a dog upon being shown the gun. She always expressed great pleasure when game, either dead or alive, was placed before her. She has frequently stood a single partridge at forty yards distance, her nose in a direct line to the bird; after standing some considerable time, she would drop like a setter, still keeping her nose in an exact line, and would continue in that position until the game moved: if it took wing, she would come up to the place, and put her nose down two or three times; but if a bird ran off, she would get up and go to the place, and draw slowly after it; and when the bird stopped, she would stand it as before. The two Mr. Toomers lived about seven miles apart, at Rhinefield and Broomey Lodges;

mal reasoning, may be ranked the *pointer:* his countenance is open, intelligent, and expressive; while his speed, strength, and persevering spirit enable him to continue the chase for a length of time almost incredible.

For those who follow the diversion very ardently, and are out almost every day, the setter will generally be found a valuable acquisition; but those who enjoy the fascinating amusement of shooting only *occasionally*, will find greater satisfaction in the more steady and better regulated exertions of the pointer; and indeed I have found good pointers (my own, for instance,) endure quite as much fatigue as the setter. Pointers are very susceptible of education, are easily broke or trained, and not so apt to forget their lessons as the setter.—See the articles *Setter* and *Pointer*.

Having offered these preliminary remarks, I will proceed to a consideration of the subject more immediately under discussion. A very mistaken notion (as before observed) has obtained currency, namely, that those dogs which it is difficult to reduce to the required subordination, ultimately prove, when thoroughly subdued, superior to all others. How such an idea could have become prevalent I am at a loss to conjecture; but I have not

Slut has many times gone by herself from the one lodge to the other, as if to court the being taken out shooting. She was about five years old when her master died, and at the auction of his pointers, &c. was included in the sale, and bought in at ten guineas. Sir H. Mildmay having expressed a wish to have her, she was sent to Dogmersfield Park, where she remained some years; she was last in the possession of Col. Sikes, and was then ten years old, and had become fat and slothful, but would point game as well as before. When killed, which was at Bassilden House, Slut weighed seven hundred pounds: her death, to those who possess common feelings of humanity, appears, (if one may use the expression,) at least animal murder: it would have cost but a trifling sum to have fed and sheltered her in the winter, and the park would have supplied her wants during summer at no expense."

the least hesitation in pronouncing it erroneous. That there have been good dogs of this description, I am willing to admit,—one, perhaps, out of a hundred; but it must be acknowledged, after all, that the *steadiness* of the very best of these hardy, headstrong dogs, is seldom to be depended on: they are always apt to spring the game, particularly when hunted in company; and it is only by hard labour, or excessive correction, or both, that their mischievous impetuosity can be restrained.

The *first* object to be considered in training a dog, is the *animal's temper:* some dogs require frequent and severe correction, while, with others, mild treatment, and even encouragement, are indispensable. The most *philosophic patience* is an admirable quality in a dog-breaker, as many otherwise excellent dogs have been ruined by ignorance and brutal passion.

Well-bred dogs generally begin to hunt at an early period, though it will sometimes happen (but not often) that a dog will continue so long before he manifests a disposition for hunting, as to induce a suspicion that he is good for nothing. Let no sportsman be too hasty in forming this conclusion. At the age of five or six months, or even earlier, you should allow your dog to accompany you when you walk out, supposing it to be in the lanes or elsewhere; and occasionally, lead him in a cord, or couple him with another dog. He may be allowed to ramble to a certain distance, so as not to be out of call; occasionally, making him come behind you at the word *back*. The fewer words that are used in each lesson the better, which should be always the same, of the plainest sound, as well as the most distinct from each other, as the dog is guided by the sound alone; any meaning beyond what the sound and tone convey is, of course, above the capacity of a quadruped. At this period, it will not be amiss to teach him to crouch at a piece of bread, or any thing else you may think proper, and not to stir till he is ordered; this may easily be done by *gentle correction* when he does wrong,

and by rewarding him when he has done right. A good time for this introductory lesson is before you feed him, and he should never be allowed to eat till he has performed his task in a satisfactory manner. The word *down* is short, and sounds well from the mouth, and is all that is necessary to make the dog crouch, except when he shows any unwillingness to execute what you desire, when *sirrah!* spoken in an angry tone, may perhaps produce obedience; if not, the whip should be administered with moderation. Further, it may be as well to teach him, at the same time, words of caution, such, for instance, as *take heed;* as well as of encouragement; as *good boy!* the latter should not be *used profusely*, but applied in the most judicious manner, as encouragement is very apt to induce a dog to commit errors. A plurality of teachers should, if possible, be avoided; one instructor being amply sufficient.

Whenever a dog is corrected, either at this period or afterwards in the field, he should not be suffered to leave you till he is satisfied that you intend him no further chastisement: for example, if a dog be guilty of so great a fault, when hunting, as to render a severe flogging indispensable, you should not allow him to run away immediately after the flagellation, but compel him to remain at your feet for some seconds or a minute, otherwise, you will not be able to catch him, perhaps, should he require a second chastisement. When a severe flogging is necessary, it is advisable to put a cord round the neck of the dog, by which means the punishment may be administered more effectually.

After the dog has been thus brought under subjection, or reduced to the requisite obedience, at any period, from the age of eight to eighteen months, according as he is strong and healthy, he may be taken into the field, either with or without another dog, and suffered to hunt whatever he pleases, (except sheep or domestic animals,) and, in fact, to run riot. *Larks*, as they so frequently present themselves, will, most likely, be the first object

of his attention; these he will spring and chase very eagerly; if *partridges* come in his way, he will do the same, with this difference only, that his eagerness will much increase; it will be still greater should he come in contact with a *pheasant;* and if a hare happen to rise before him, he will not fail to chase, with all imaginable ardour, and will, most likely, *open* in the pursuit. In this way he may be indulged till such time as he has become so attached to the sport that he may be checked without the least danger of his being *overfaced*, and thus induced to *blink* his game, or be otherwise rendered shy.

In a short period you will perceive him draw more cautiously upon the scent; on approaching his object, he will pause even at a lark; but when a partridge happens to be before him, his pause or stop will be more steady, and his manner altogether much more earnest; and the difference of the object will be very clearly manifested in his countenance.* He should now be taken out with an old steady dog, and whenever he comes to a point, the word *toho!* should be used, and afterwards the whip, should the word prove unavailing. Whenever he sets, approach him at your regular pace, but seem not in a hurry, (as, if you run, he will be very apt to do the same) and stand by him for a few seconds; if the birds do not rise, he should be allowed to advance, by saying *hold up!* be mindful, however, that he does not advance too rapidly; and in order to effect this, make use of words expressive of caution, as *take heed!* When the old dog points, the young one should be taught to *back*, which may be accomplished in the following manner:—As soon as the old dog

* If, contrary to expectation, he should manifest no disposition to pause or stop, after having been taken into the field half-a-dozen times, every time he springs the game, he must be brought back to the spot whence it rose, and compelled to crouch; the word *toho!* must be angrily spoken, and the whip used, if, after repeated cautions, he should pay no attention.

settles to a point, supposing the young one happens to be at a distance, he must be stopped, as the moment he perceives the point, he would, if left to himself, rush eagerly up: however, he must be prevented from so doing, by calling out *toho!* at the same time holding up your hand.—If he obey not by gentle means, recourse must be had to the whip. By these means he will, most likely, soon become very steady; for dog-breaking, if attended to at a proper period, and in a proper manner, does not give half the trouble that is generally supposed. Holding up the hand is the signal for the dog to *back;* and, in a little time, whenever he sees it, he will immediately stop, though he may be at the other end of the field, or at a considerable distance.

At the same time, he should be taught to quarter his ground in a proper manner, as well as not to break fence. In beating a field, care should be taken to give him the wind; or, at least, he should never be suffered to run directly with the wind: if it blow in his face, so much the better; but a dog will hunt very well with a side wind. The dog should cross about twenty yards before the shooter, and if, after running down the field, he should not cross up again at about the distance just mentioned, he should be called to or whistled, and a wave of the hand should direct him across the field; unless indeed he catch scent, when he should be suffered, of course, to follow it. In case of attempting to *break fence*, he should be instantly whistled to, or called by name in an angry tone, using at the same time the words *'ware fence!* This will, in all probability, soon produce the requisite obedience; but should he refuse to obey the whistle or call, the *whip* must produce what more gentle means are unable to effect. If he refuses to pay attention to the whistle, he should receive a few stripes, (more or less, according to the disposition of the animal) the whistle occasionally used during the operation, and continue to be so corrected, should he not return implicit obedi-

ence when called to. Thus he will soon become pleasingly tractable.

However, as some young dogs are alarmed at the report of the fowling-piece, it will not be amiss, on the game rising after having been properly set, to fire a pistol, which will render him familiar to the sound. If his terror should increase on the firing of the pistol, so as to frighten him from the field, the experiment should be entirely abandoned till the shooting season, when he should be coupled to another dog, or otherwise prevented from running away till a few birds are killed and shown to him. If a bird be winged, he should be induced to foot it, and even suffered to mouth it, which is by far the best method of reconciling him to the discharge of the fowling-piece.

We will suppose that the dog is already steady at partridge; yet if he happens to approach a hare, he will scarcely fail to rush at her—at all events he will chase when she rises. In this case, he must be brought back to the place from whence he run, and made to crouch as before described, using the words, *'ware hare!* or *'ware chase!*

Hitherto, I have supposed that the dog-breaker has been engaged with a mild, good-tempered animal, which will be easily rendered tractable by the means just described; there are, however, dogs of a very different description, which require an excess of flogging, aided by other coercive measures, in order to enforce that indispensable degree of subordination, without which shooting, so delightful with well-trained pointers, is rendered irksome and vexatious.

If repeated severe flogging fail to accomplish the object of the sportsman, recourse must be had to the *trash-cord*, or rather *drag-cord*. This is a cord something like a clock-line, about twelve or fourteen yards in length, to be fastened round the dog's neck; on the moors the dog will run with twenty yards, while twelve or fourteen will soon tire him in enclosed

grounds:* the greater the length of the cord, however, that can be used with propriety, the better: the cord may be shortened as the dog becomes fatigued. By the help of this cord, you will be able to stop him whenever you please. We will suppose that he makes a point: should he attempt to run in, you must check him as smartly as possible, making use of the word *toho!* and the whip also if you think proper. This cord will be very useful should the dog not come in when called, &c. If, after some little practice with the drag-cord, the dog perseveres in springing his game, or continues otherwise refractory, the *spiked collar* must be used. The *spiked collar* is merely a leathern strap, through which are inserted a dozen or more small nails, the points of which should extend half-an-inch beyond the surface of the inside. On the outside a piece of leather must be sewed over the heads of the nails, to prevent their starting back when the dog presses upon their points. This is to be buckled round the dog's neck, the points of the nails inwards, and the drag-cord attached to it. Thus, when it becomes necessary to check him on his attempting to run in, or behaving otherwise unruly, the admonition, or rather correction, will be much more impressive; in a little time, his neck will be very sore; and he must be contumacious beyond measure if this mode of punishment does not produce the desired effect.

The most difficult part of dog-breaking is, perhaps, reducing the animal to perfect obedience in respect to hares. In the first instance, a young dog will eagerly pursue larks or thrushes, or in fact any of the feathered tribe which he happens to meet with: the partridge being a larger object, and making considerable noise when taking wing, will be pursued by him with much more ardour; a similar remark will equally apply to the pheasant, which

* On moors, the cord is drawn over the top of the heath in a great measure, and therefore runs light; in stubble fields and rough grounds many obstacles render the dragging of the cord very hard labour.

he will still more eagerly pursue: but very soon discovering the attempt to be hopeless, he will shorten the distance of his pursuit, and ultimately abandon the chase altogether. Not so, however, with the hare; for perceiving that it does not leave the ground, but runs like himself, he will not very easily relinquish the hope of overtaking her, but will rush forward with ungovernable ardour, and, even when lost sight of, will continue to follow the chase by the nose. But there are few dogs which may not be rendered steady in respect to hares by the means which we have pointed out, and that much sooner, of course, where hares are numerous, than where they are seldom met with. There is one effectual mode of reducing a dog to obedience in this respect, should the whip, the drag-cord, and the spiked collar, fail of the desired effect. For this purpose a living hare should be procured, to the neck of which a cord should be fastened: to the other end of the cord (which may be six or seven yards in length) should be attached a wire, which wire should be thrust through the snout or cartilaginous part of the dog's nose. The hare will, of course, spring forward at the sight of the dog, which will not fail to cause the most acute pain to the latter; the whip should be applied at the same time, accompanied with the words *'ware hare!** This may be regarded, perhaps, as the excess of severity, and should never be resorted to but when all milder means have been repeatedly tried in vain. To prevent an obstinate dog chasing hares, I have sometimes seen the fowling-piece used as a remedy. It may be regarded as a desperate one, which, though it will generally have the desired effect, should be used with the utmost circumspection. If a dog is to be shot at, care should be taken that he is at a sufficient distance, as well as to hit him about the rump; otherwise you run great risk of *killing* him.

* On all occasions of correction, the requisite word should uniformly accompany the punishment.

In the earlier part of these remarks I have mentioned mild-tempered dogs. It will be requisite here to observe, that well-bred dogs are occasionally met with so very shy as to require encouragement rather than correction: dogs of this description may sometimes prove excellent; but I must confess I do not like to see a *very shy dog*. Animals of this sort should never be taken out with dogs that need much rating or flogging, as the very sight of the whip alarms them to such a degree that they will not stir from behind you. Nothing is more difficult than to manage very shy dogs: they must be encouraged to hunt; and if they commit an error, the means of correction are difficult, and sometimes impossible; the least severity will most likely make them *blink** their game; and when once this habit is contracted, it will require more than ordinary pains to eradicate it.

As I have spoken of the various methods to be employed to render a dog steady at the point, to range, and also to *back*, I must observe, in this place, that a dog should never be suffered to *break fence;* or, in other words, to leave the field till you are ready to accompany him, as much mischief may ensue from his being suffered to ramble out of sight, or to a great distance. On his attempting to break fence, the whistle should be used, the dog should be called by his name, in an angry tone, followed by the words, *'ware fence!*—the whip, &c. to be resorted to as in other cases, if necessary, to procure obedience.

Generally speaking, as little noise as possible should be made. The voice or the whistle should never be used, but when absolutely demanded; the dog will thus hunt steadier; and if you accustom him to the motion of your hand, he will regularly look for the signal whenever he is at a loss.

It is thought by some, that dogs *broke on the grouse mountains*

* *Blinking* is when a dog finds game, and, on being spoken to, draws off, and runs behind you, and frequently without being spoken to.

are superior as to *ranging*: this is doubtful, if not a mistaken notion altogether. In this respect, much will depend upon the animal himself.

Young dogs in general hunt with their noses closer to the ground than old ones, and are apt to puzzle on the scent a considerable time after the game has left the spot. A little practice will, however, most likely remedy these defects; if not, recourse must be had to the *muzzle-peg*, an instrument very well known amongst sportsmen, but which I will, nevertheless, describe. The muzzle-peg is merely a piece of wood hollowed out and formed at one end so as to fit or receive the under jaw of the dog. From the dog's nose to the other end, projecting about nine inches, it is merely a round stick rather thicker than a man's thumb; though some persons, instead of one of these round projecting sticks, prefer two, forming an angle with the dog's nose. At the upper end of that part which is placed under the dog's nether jaw, two longitudinal holes or slits are made, through which a strap is inserted, which is buckled behind the animal's ears; while the other end of the thick part of the muzzle-peg, or that which comes under the canine teeth, or fangs, is perforated with two holes, through which a leather thong is drawn and tied immediately behind the fangs just mentioned. With this instrument, so fastened, the dog may be hunted without the least injury. At the first putting on, however, he will use every effort to rid himself of so disagreeable a companion, nor will he hunt, till he has satisfied himself of the inefficacy of his utmost exertions to get free from this unpleasant restraint. At length, he will become familiar with the instrument, and run with it as unconcernedly as possible; and it will make him carry his head well up, as well as prevent him chopping young hares, or mouthing in any way. A dog that *rakes* (that is, runs with his nose close the ground,) and follows his game by the track, will generally spring it. Whenever, therefore, a young dog is seen to fol-

low the track of a partridge (down wind in particular) he should be called to in angry tone, *hold up!* he will then become uneasy, going first to one side and then to the other till the wind brings him the scent. If, after a short period, he should persevere in keeping his nose to the ground, and in following the track, recourse must be had to the instrument I have just described

Grouse, partridges, or any kind of game, lie much better to a dog that winds them, than to one which approaches by the track. The dog that winds the scent approaches the game by degrees, and that more or less as he finds it wild or otherwise, which he is enabled to discover by the scent which is emitted; and though grouse or partridge see him hunt round them, they will be much less alarmed than when they observe him following their track, and suffer his near approach; or, in other words, *lie well.* The reason seems evident:—the dog, I apprehend, is seen by the birds (generally speaking) as soon as he enters the field; or, at all events, at a very considerable distance; and the moment they perceive him approach by the track, they take the alarm, supposing themselves discovered, or, at least, very likely to be discovered; but watching, as they assuredly do, the motions of the dog, and observing that he does not follow the track along which they have run, they conceive themselves undiscovered, and thus allow the dog to come to a steady point. It may, moreover, be further remarked, that a dog which carries his head high will always find the most game, to say nothing of finding it in a handsome style.

A YOUNG dog should be kept regularly to his work, if possible, until he become quite staunch. Great care should be taken with him the first season he is shot over, as it seldom fails to determine his worth: at this period, numbers of otherwise valuable dogs are ruined by improper treatment, particularly by ignorant, passionate gamekeepers and dog-breakers: no fault, however, should be allowed to escape correction or *reproof.* I do not

mean that the dog should be flogged for every trivial mistake, but that the most trifling error should be noticed by sounds or symptoms of displeasure; and, proceeding in this way, you should administer correction according to the degree of crime.

We will suppose the young dog broke, and taken out to put into effectual practice all his previous instruction. On the first shot, particularly if the dog see the bird fall, he will be very apt to break away, in which case he should be brought back to the spot whence he had run, and there making him lie down, call out, *down charge!* He should be compelled to remain in that position till the gun is re-loaded; and the disposition and temper of the animal should be the rule and guide of correction. A well-bred dog will generally become perfect in this lesson in a very short period.

I must here again recur to a subject which has been already noticed. It sometimes happens that a young dog will testify every symptom of alarm on the firing of the fowling piece:—will, perhaps, run home, and be with difficulty brought again to the field. When this occurs, I consider it a very unfortunate circumstance, as it will frequently require no ordinary pains to free the dog from this unnecessary fear. There is no better mode of effectually remedying the evil, than by convincing the animal that the discharge of the fowling piece is intended for a very different purpose than to create alarm. He must, therefore, be brought back, and compelled to remain in company with the sportsman: he must, in fact, be led in a cord, to prevent his running away again; and if an attendant be not in the field, the sportsman may tie the cord round his own body. A few birds should be killed over him as quickly as possible, which should be shewn to him, and he should be allowed to mouth them, if he appears inclined to do so: if a bird happen to be winged, he should be enticed to foot it:—thus he will very soon comprehend the true intention of the fowling piece: his fears will sub-

side; and he will shortly manifest as much anxious joyful expectation at the sight and sound of a gun, as he previously testified alarm and terror.

Some persons accustom their young dogs to the report of fire-arms at a much earlier period than when taken into the field; in fact, when they are very young. Certainly, if they endure the report of a gun or pistol at this early period, there can be little dread of their taking alarm when brought into the field; but if a very young dog or whelp takes fright on the report of a pistol or gun, his fears will become so rooted that much greater difficulty will arise in completing his education than in the case I have before stated. In fact, all firing of guns or pistols near him should be cautiously avoided, as a practice of this sort will but increase his alarm, unless, indeed, it were daily, and almost incessantly, resorted to. The dog must be regularly broke, and when taken into the field with the fowling piece, treated in the manner I have described above. It is highly important to convince the dog that the fowling piece is for the purpose of killing the game, which he is to find; and this cannot be done when shooting merely to accustom him to the sound, as no object is thus placed before him. For the same reason I do not strongly recommend the practice of teaching dogs, when very young, to crouch in the lanes, &c. when you happen to be walking out, as the animal cannot be thus aware of the ultimate intention of his master, or conscious of the object for which he is compelled to become prostrate: this method, in fact, teaches the dog to crouch too much, and, on that account, I never practise it, or, in other words, force my pointers to endure such abject and unmeaning servitude.

Having thus gone, as plainly as possible, through what, for the sake of distinction, I will call the *regular rules* of dog-breaking, I will finish this long essay by a few desultory or general remarks, which will, I trust, be equally useful, and, at the same time, serve the purpose of collateral illustration.

In the first place, then, I would advise gentlemen *to break their own dogs*, wherever such a plan is easily practicable, and agreeable to the taste of the sportsman. Dogs thus broke, and never suffered to go out but in company with the person who trained them, will infallibly be superior to all others. They are thus accustomed to obey one person only; they become perfectly familiar with his mode and manner, and, after being shot over one season, never afterwards give the least trouble. If dogs are lent from one to another, or become subject to many masters, they cannot be expected to be perfect. For instance, I will suppose I have trained a dog, have shot over him several seasons, and he has, at length, become perfectly master of his business; I lend him to a friend for one day, as good a sportsman, too, as myself; the dog, on being taken into the field, and perceiving a stranger, is unwilling to acknowledge his authority; the mode and manner of my friend, too, are different from mine, and, consequently, unlike that which the dog has been accustomed to; in fact, the sportsman and the dog do not perfectly understand each other, and a quarrel ensues: the sportsman succeeds, perhaps, in reducing the dog to obedience; but the latter returns home, in some measure, a different animal; he has committed various mistakes in the course of the day, most likely, and, on next going into the field, his own master will not fail to perceive that his dog is not the same, but requires, in some degree, training anew.

The best dogs may sometimes make mistakes—on bad scenting days, for instance; or if they happen to run down wind, particularly when it is blowing strong. On such occasions, it would be cruel to flog them, though the words expressive of caution may be used.

Well-bred pointers, as I have before observed, if taken into the field at a proper period, will, in general, require little breaking; they will often point and back of themselves, and, in fact,

give the sportsman very great satisfaction with very little trouble.

The dog that first finds the game should always go up to it; and on no account should another be suffered to pass or run before him. It is like snatching his well earned reward, to say nothing of the confusion which must ensue from such a culpable practice.

A pointer or setter should never be named *Carlo, Sancho,* or, indeed, any name ending in *o,* as the word TOHO is so frequently indispensable, and, ending in the same sound, is apt to cause misunderstanding and confusion. A dog's name should consist of one expressive syllable, which comes forcibly form the mouth, such as *Bob,* for instance, and, where more than one dog is used, their names should sound as differently as possible.

It but too frequently happens that young dogs manifest an inclination to *hunt and worry sheep,* which must be instantly corrected. If a severe flogging have not the desired effect, the dog should either be tied to a strong ram, leaving a sufficient length of cord to allow the ram to make a run; or they should be confined together in a barn or some building. Flog the dog till he cries out, making use of the words *'ware sheep!* The ram will not fail to commence a furious attack upon him, and will butt him most violently. They should be kept together for twenty minutes; the ram will not fail to continue his butting, and it may not be amiss to flog the dog several times during this period, making use of the words just mentioned at the same time. This will, most likely, prevent the dog ever looking at sheep afterwards, unless, perhaps, where he has absolutely bitten them before this system of correction was put in practice, in which case, I am not aware of any mode of punishment or correction that can be depended on; for, although the dog may not even notice sheep in your presence, yet he will, nevertheless, be very apt to steal away, as opportunity may offer, for

the purpose of depredation:—when once dogs have *tasted mutton*, they are never to be trusted. Indeed, I have seen an instance or two, where the dog, after having been a little butted, has fiercely turned upon the ram*, which he would have torn to pieces had he not been prevented; but a circumstance of this sort rarely occurs, and, in the instances to which I allude, the dogs were grown rather too old to be cured by this or any other mode short of confinement or death. If a young dog look earnestly at, or *set*, a sheep, he should be corrected; and, if you find him repeat it, have recourse to the ram, as by far the most effectual mode that can be adopted. A dog should be corrected, in fact, the moment he is observed to manifest the slightest inclination even to notice sheep; as he will, if not checked, first look and set, then chase, and, ultimately, worry them.

As to poultry, the evil is not of so much magnitude, nor the disposition to worry it so difficult to subdue, as when sheep are the object; besides, poultry, by being generally about the house or premises, afford better, as well as more frequent, opportuni-

* On this subject, Beckford relates the following anecdote:—A late lord of my acquaintance, who had heard of this method, and whose whole pack had been often guilty of killing sheep, determined to punish them, and to that intent put the largest ram he could find into his kennel. The men with their whips and voices, and the ram with his horns, soon put the whole kennel into confusion and dismay, and the hounds and ram were then left together. Meeting a friend soon after, "come," says he, "come with me to the kennel, and see what rare sport the ram makes among the hounds; the old fellow lays about him stoutly, I assure you—egad he trims them—there is not a dog dares look him in the face."—His friend, who is a compassionate man, pitied the hounds exceedingly, and asked if he was not afraid that some of them might be spoiled?—"No, d—n them," said he, "they deserve it, and let them suffer." On they went—all was quiet—they opened the kennel door, but saw neither ram nor hound. The ram by this time was entirely eaten up, and the hounds having filled their bellies, were retired to rest.

ties of observation. Young pointers are very apt to make their first essay, as it were, by worrying chickens, or pigeons, where they happen to be very tame. Early and severe flogging will, however, generally remedy the evil: if not, tie a fowl (a living one is the best, on account of its fluttering,) to the dog's tail, and tie it in such a manner, either by a cleft stick or otherwise, that it may give the dog considerable pain. Take him to a place some distance from his kennel, and, after giving him a few smart strokes with the whip, let him loose, and he will seldom fail to run home, howling all the way, (just as if a tin kettle were tied to him,) and terrified beyond measure. He should, however, be followed, dragged from the farther end of his kennel, in which he will, no doubt, endeavour to hide himself, and be again well flogged; and the fowl, being taken from his tail, should be buffetted about his head.

I have met with sportsmen who teach their pointers to fetch the dead bird: I must confess I am not fond of this method; as the dog, thus accustomed to fetch the bird, is very apt to break away on the shot, whether a bird be killed or not.

The Russian Pointer.—In concluding these observations on dog breaking, I must once more revert to the animal distinguished by the name of the *Russian Pointer*, though it has already been slightly noticed under a distinct head:—The Russian Pointer, which has of late years attracted the attention of the shooting sportsman, is one of those animals which, from external appearance, is by no means calculated to excite a prepossession in its favour. The dog in question may or may not have come originally from Russia; his thick covering of hair would seem to indicate, however, that he is well calculated to endure the rigours of a northern climate; therefore, as far as relates to the word *Russian*, the idea and the appearance seem perfectly in unison. But while I admit the word *Russian* to be appropriate to the nature of the dog, I feel much inclined to

dispute the specific and particular application of *pointer*. That this rough thickly clad dog may be taught to point, there is little doubt, and the same remark may, with propriety, be extended to almost every ramification of the dog: any dog that will run and hunt may be taught to stop or point. Take a young terrier, for instance, into the field, and hunt him several days; he will be found, at first, to chase every bird that he meets with; but, after having been on the scent of partridges repeatedly, he will be seen to pause, and, after a few seconds, rush to the spot where he supposes, from the scent, the birds are situated. The fact is, that almost all dogs hunt the tenants of the air from inclination or instinct, but particularly partridges, pheasants, &c. which are much given to running, and thus afford their four-footed enemy a far better opportunity of following them than such as take to immediate flight, at once convincing the dog of the hopelessness of the pursuit.

It has been stated, that an earl of Surrey was the first who taught a dog to set; this certainly may have been the case, and I have no doubt that the observation of the *pauses* which the animal instinctively makes, first gave rise to the caution in *pointing*, which the dog now receives from the sportsman.

As I have just stated that all dogs that will hunt will set also, I shall, for the sake of elucidation, exhibit a comparative view of the subject; or in other words, attempt to show that some dogs testify greater inclination for those instinctive pauses than others. The greyhound we omit altogether, as he manifests no disposition to hunt by the nose. The *lurcher*, which will hunt by the nose, and possesses the quality above described, is not a good example, as his olfactory nerves are of a very inferior description, and he is more apt to depend upon the eye than the nose. The *terrier* has already been mentioned as pausing to prepare for a rush; the same inclination will be found to pre-

vail in most of the mongrels, which it is impossible to classify, but which will be generally found to evince a similar disposition; while all dogs of the spaniel kind, as they have better noses, and are more inclined to range, exhibit the quality of pointing in a still greater degree; at the same time it must be admitted, that the pointer, by possessing still superior olfactory organs, being much inclined to range, and of a docile and tractable temper, is a better subject than any of those just enumerated for improving the instinctive pause into the regular, steady statue-like *set*, so essential to the pleasures derived from the fowling piece.

The *Russian pointer* is merely the ugliest specimen of the water spaniel, with a trifling cross perhaps of the setter; and from what has been stated, it will be easily perceived that he might be taught to set. Chance, in all probability, first introduced the Russian pointer to the notice of some fanciful sportsman: to see a dog of this description set steadily would appear strange; and from this very circumstance, the animal might obtain credit for other qualities which he did not possess. However, though the Russian pointer was much spoken of a few years ago, its introduction was very limited, and attended for the most part, with unqualified dissatisfaction.

The writer once accompanied a gentleman on a shooting excursion, who had procured three of these Russian pointers; and from seven o'clock in the morning till eleven, the dogs ranged the fields in an unruly manner, without even making a handsome steady *point*, though it was in the early part of September, the scent good, and plenty of birds: the impression left on the writer's mind was, that the dogs possessed a headstrong disposition, and a bad nose. It is clear that the Russian pointer would require incessant correction, and, after all, be good for nothing. They are low rangers, and on this account, would

always be apt to get too near their game. Under all these circumstances, therefore, of uncouth appearance, bad nose, and refractory disposition, these dogs may be safely pronounced utterly unworthy of the notice of the sportsman.

OF SCENT;

AND THE REASON WHY ONE DOG'S SENSE OF SMELLING IS SUPERIOR TO ANOTHER'S.

Scent is an effluvium which, in a greater or a less degree, is continually issuing from the bodies of animals, and other substances; but, as these remarks are intended more for the sportsman than the philosopher, I shall confine myself merely to the nature of that animal exudation by which a dog is enabled to inform his master of his approach to game. The effluvium constantly issuing from the pores of all animal substances, consists of minute particles, or corpuscles, which, driven by the wind or otherwise, and coming in contact with the olfactory nerves of the dog, enable him to discover the proximity of the object of pursuit, and, after having ascertained the direction of the vapour, he cautiously ascends, as it were, the stream, and, by practice, becomes a proficient in pointing out the identical situation of the source whence the effluvium or scent issues, and thus prepares his master for the springing of the game.

Somervile expresses his opinion on scent in the following beautiful lines:—

> " The blood that from the heart incessant rolls
> In many a crimson tide, then here and there
> In smaller rills disparted, as it flows
> Propell'd, the serous particles evade
> Through th' open pores, and with the ambient air

Entangling mix. As fuming vapours rise,
And hang upon the gently purling brook,
There by th' incumbent atmosphere compress'd,
The panting chase grows warmer as he flies,
And through the net-work of the skin perspires,
Leaves a long steaming trail behind, which by
The cooler air condens'd, remains, unless
By some rude storm dispers'd, or rarified
By the meridian sun's intenser heat.
To every shrub the warm effluvia cling,
Hang on the grass, impregnate earth and skies.
With nostrils opening wide, o'er hill, o'er dale,
The vigorous hounds pursue; with every breath
Inhale the grateful steam: quick pleasures sting
Their tingling nerves, while they their thanks repay,
And in triumphant melody confess
The titillating joy. Thus on the air
Depends the hunter's hope. When ruddy streaks
At eve forbode a blustering stormy day,
Or lowering clouds blacken the mountain's brow,
When nipping frosts, and the keen biting blasts
Of the dry parching east, menace the trees
With tender blossoms teeming, kindly spare
Thy sleeping pack."

Beckford says, "I cannot agree with Mr. Somervile, in thinking scent depends on the air only. It depends also on the soil. Without doubt, the best scent is that which is occasioned by the effluvia, as he calls it, or particles of scent, which are constantly perspiring from the game as it runs, and are strongest and most favourable to the dog when kept, by the gravity of the air, to the height of his breast; for then it neither is above his reach, nor is it necessary he should stoop for it.—At such times, scent is said to lie *breast-high*. Experience tells us, that difference of soil occasions difference of scent; and on the richness of soil and the moderate moisture of it, does scent also depend, I think, as well as on the air. At the time leaves

begin to fall, and before they are rotted, we know that the scent lies ill in cover. This alone would be a sufficient proof that scent does not depend on the air only. A difference of scent is also occasioned by difference of motion: the faster the game goes, the less scent it leaves. When game has been ridden after, and hurried on by imprudent sportsmen, or has been coursed by sheep dogs, the scent is less favourable to hounds; one reason of which may be, that the particles of scent are then more dissipated.

"I believe it is very difficult to ascertain what scent exactly is:—I have known it alter very often in the same day. I believe, however, it depends chiefly on two things,—"*the condition the ground is in, and the temperature of the air;* both of which, I apprehend, should be moist, without being wet. When both are in this condition, the scent is then perfect; and *vice versâ*, when the ground is hard, and the air dry, there will seldom be any scent. It scarce ever lies with a north or an east wind: a southerly wind without rain, and a westerly wind that is not too rough, are the most favourable. Storms in the air are great enemies to scent, and seldom fail to take it entirely away. A fine sunshiny day is not often a good hunting day; but what the French call *jour des dames*, warm without sun, is generally a perfect one: there are not many such in a whole season. In some fogs I have known the scent lie high; in others, not at all; depending, I believe, on the quarter the wind is then in. I have known it lie very high in a mist, when not too wet; but if the wet hangs much on the boughs or bushes, it falls on the scent and deadens it. When the dogs roll, the scent, I have frequently observed, seldom lies, for what reason I know not; but, with permission, if they smell strong when they first come out of the kennel, the proverb is in their favour; and that smell is a prognostic of good luck. When the cobwebs hang to the bushes, there is seldom much scent. During a white frost the scent lies high; as it also does when the frost is quite gone: there is a time, just as it is

going off, when it never lies: it is a critical minute for hounds, in which their game is frequently lost. In a great dew the scent is the same. In heathy countries, where the game brushes as it goes along, scent seldom fails. Where the ground carries, the scent is bad, for a very evident reason, which hare hunters, who pursue their game over greasy fallows and through dirty roads, have great cause to complain of. A wet night frequently produces good chases, as then the game never like to run the covers or the roads. It has often been remarked, that scent lies best in the richest soils; and countries which are favourable to horses are seldom so to hounds. I have also observed, that in some particular places scent never lies."

At first view, Somervile and Beckford would appear at variance on the subject of scent; but, in fact, they are both correct. Scent is entirely under the influence of the atmosphere; yet it is equally true that it varies, according to the nature of the land, in the manner pointed out by Beckford. On Friday, February 3rd, 1826, I met the Cheshire hounds at Ravensmoor, near Nantwich, and a fox was found in a neighbouring cover, called Radnor Gorse. The hounds went away with uncommon speed; and sly renard having gone off in a line for Ravensmoor, turned to the left to Beechhouse. The fox took the direction of Bar Bridge, passing over a fine grass country, where the scent was very good, and the hounds continued the pursuit with so much speed, that none but good workmen were able to keep in sight of them. I never recollect seeing hounds carry a better head or go faster. The fox ultimately turned to the left towards the village of Bunbury, where the land was higher and sandy, and where the scent immediately died away. Yet, I am inclined to think that this circumstance was owing as well to atmospheric influence as to the alteration in the soil, as rain came on immediately afterwards. On rich pasture land, the scent will be much better than on poor pasture land—for the following reason:—the

herbage on the former being more luxuriant, more plentiful, and possessing a more adhesive quality, the floating particles of scent are thus more numerously as well as longer detained, and consequently afford a superior scent. Nevertheless, the degree of scent is, beyond all question, regulated entirely by the atmosphere:—when the latter is favourable (as with a soft southern wind, for instance) dogs will generally run breast high over good land, and on such occasions the scent will be found much superior even on the worst land. When the scent is most propitious to the sportsman's hopes, it would seem to float for a considerable time at that precise elevation as to enable the hound to run with his utmost speed, (as Beckford has noticed): the particles of scent not only adhere to the herbage and other obstacles with which they come in contact on the immediate line of the chase, but float and fill up a considerable space, as is clearly proved by many of the hounds very frequently running breast high at an evident distance to the windward of the line of chase. On the contrary, when the scent is bad (as with a cold, harsh, easterly wind) it can be made out (if at all) only by thorough line-hunting hounds; while those dogs, which, under other circumstances, ran so brilliantly, are not able to recognise it. Experience convinces every sportsman that, over fallows or beaten roads, scent never lies well: the reason is evident:—there is no herbage or other attractive objects to detain the floating particles, and the consequence is, that if the hounds do not follow on over such places immediately after the chase has passed, they are not able to hunt—the scent has been dissipated. Scent will continue, precisely according to the air or atmosphere, for a longer or a shorter period.

The ingenious author of Observations on Hare-hunting, in speaking of *scent*, says, the qualities of those portions of matter that discharge themselves from the bodies of beasts of game, would much better suit the experiments of a philosopher, than a

huntsman. Whether considered as an extraneous stock of odoriferous particles given them by Divine Wisdom for the very purpose of being hunted? Whether they are proper identical parts of the animal's body, that continually ferment and perspire from it? Whether these exhalations are from the breath of the lungs, or through the skin of the whole body? are queries that deserve the subtility of the virtuoso.

The author contends that the particles of scent evaporated must be inconceivably *small*, as he has taken many hares after a chase of two, three, four, or five hours, without being able to perceive the least difference in *weight* from those that have been killed on their forms; nor from gentlemen who have hunted box hares, could he learn, that they discovered any visible waste in their bodies, further than might be supposed to arise from the effect of discharging their grosser excrements. But admitting a loss of two or three *drachms* after so long a fatigue, yet how minute must be the division of so small a quantity of matter, when, (deducting the *number* of those particles that are lost upon the ground, dissipated in the air, and extinguished or obscured by the fœtid perspirations of the dogs and other animals,) it affords a share to so many couple of hounds, for eight or ten miles successively. To a sportsman it is needless to observe, that scent depends on the state of the weather, and is affected by its vicissitudes; a storm will in an instant destroy it, nor is this to be wondered at, if we consider these particles of scent are of an exactly equal specific gravity with those of the *air*, and which always fall and rise in just proportion to it. Huntsmen who are hasty, rate and curse those hounds, (which yesterday were the best in England,) for galloping with their noses in the air, as if their game was flown, when in fact it is in vain for them to seek the scent in any other place, the increasing weight of that fluid element having wafted it over their heads. The most terrible day for the hare is, when the air is in its mean gravity, tolerably

moist, but inclining to grow drier, with a mild breeze; the moderate gravity buoys up the scent as high as the dogs' breast, the vesicles of moisture serve as canals to carry the effluvium into their noses, and the gentle wind so much helps to spread it, that every hound, even at eight or ten paces distance, especially with the wind, may have a due portion.

That the same hare will, at divers times, emit finer or grosser particles, is equally manifest to every one observant of the frequent changes in a single chase. The coursing of a cur dog is ever the occasion of a fault; and after such an accident, the hounds must be again and again put upon the scent, before they will acknowledge it for their game; the reason is, the change in the *motion* causes one in the perspiring particles. The alterations of scent in a yielding hare are less frequently productive of faults, because they are more gradual and insensibly grow smaller; but that alterations there are, every dog-boy knows, by the *old* hounds pressing forward with greater earnestness as the hare is near her end.

Motion, continues this author, is the chief cause of discharging these particles of scent, because a hare is very seldom winded whilst quiet in her form, although the hounds are so near as even to run over her; sometimes indeed she is *chopped* upon her seat; but this probably is the consequence of her own curiosity, in moving and rising up in it, to watch the proceedings of her enemies. It is very plain, the slower the hare moves, the stronger and grosser are the particles of scent she leaves, which is one reason that the morning walk will yield scent so much longer than in flight when hunted.

Of the influence which *frost* has upon scent, this author observes, that he has been often disappointed in the hounds hunting the trail of a hare up to her seat, and frequently been able to hunt her walk in one part of a field, and not in another; that at ten or eleven o'clock, the same walk which gave the least

scent at seven in the morning, has afforded the best; but what has been more perplexing, the hounds have only been able to hunt it at the wrong end, or backwards, and after many hours expectation: the fact is, that the hounds are never so far from their game, as when they hunt it the warmest. All these accidents are only the effect of the *hoar frost*, or very *gross dew*, (for they never happen otherwise,) and from hence must the miracle be accounted for. At the going off of a frost, the mercury is commonly falling, and by consequence the scent sinking into the ground. The earth is naturally, on such occasions, fermenting, stinking, and very porous, so that it is impossible but that most of the particles of scent must then be corrupted, buried, or destroyed by stronger vapours: it is common to hear it said, the hare carries too much dirt in her heels; but that is not all, for by what has been alleged, it is plain she is not so eagerly pursued by the scent of her feet only. Thus having ascertained that a *thaw* tends to corrupt the particles of scent, it leaves a fair reason to maintain, that the *frost* fixes, covers, and preserves them. Whether this is done by intercepting their ascent, and precipitating them to the ground by the gross particles of frozen dew, or whether by protecting them from the penetrating air, is not professed to be decided; but the facts are certain, confirmed by experience.

It is a very well-known fact, that the sense of smell varies very much in dogs; or, to speak as a sportsman, some of them possess better noses than others. In dogs with broad heads, the os æthmoides, or *sive bone*, is much larger than in narrow-headed dogs; the *laminæ cribrose*, or the *sive* itself, is therefore more capacious, and contains more openings; so that the olfactory nerves, which pass through it, are more numerous, and are divided more minutely, and thus that exquisite acuteness of smell is produced, which is found to obtain in the old English bloodhound, and all dogs with broad heads: this excellence or superi-

ority of the olfactory organs is further assisted by the largeness and flexibility of the lips and skin about the nose, which thus admit of a much greater extension of the olfactory nerves, and render them more susceptible of external impressions. The olfactory nerves resemble a bunch of small white cords, one end of which is connected with the brain, while the other, descending the head, spreads into numerous ramifications, reaching to the edges of the lips as well as to the extremity of the nose.

Hence the inferiority of the greyhound's sense of smell will be easily perceived: his head is narrow, while his lips are thin and compressed; and in consequence of this inflexibility, and the contracted structure of the head, that breadth and extension of nerve are inadmissible; and to make up, as it might seem, for this defect, nature has endowed him with a celerity which is not to be met with in any other species of the dog.

All dogs, therefore, with broad heads must possess superior organs of smell; but it does not appear that a narrow or sharp nose presents any obstacle, as the main bulk of the olfactory nerves is situated in the head. The wolf and the fox appear to have sharp noses; but their heads are remarkably broad and capacious:—their olfactory organs are unquestionably exquisite.

Experience, in fact, fully verifies these conjectures: the dogs most remarkable for exquisite sense of smell, are equally distinguished for broad heads; and the gradations are easily to be traced: the talbot,* the original of all our modern hounds, ex-

* To try whether a young *blood-hound* (talbot) was well instructed, a nobleman (says Mr. Boyle) caused one of his servants to walk to a town four miles off, and then to a market-town three miles from thence. The dog, without seeing the man he was to pursue, followed him by the scent to the above-mentioned places, notwithstanding the multitude of people going the same road, and of travellers that had occasion to cross it. When the hound came to the chief market-town, he passed through

hibits the outward characteristics of superior olfactory nerves in a very obvious and striking manner:—by crossing the talbot with something of the greyhound breed, the stag-hound was produced:—the speed of the talbot was thus increased; but as the head became more compressed, the sense of smell suffered accordingly. The fox-hound is a still farther remove, and his

the streets without noticing any people there, till he got to the house where the man he sought was, and there found him in an upper room.

Blood-hounds were formerly used in certain districts lying between England and Scotland, which were infested by robbers and murderers; a tax was laid on the inhabitants for maintaining them, and there was a law in Scotland, that whoever denied entrance to one of these dogs in pursuit of stolen goods, should be deemed an *accessary*. This peculiar property of discovering the nightly spoiler by the unerring accuracy of the dog's smell, Somervile thus beautifully notices:—

——————Soon as the morn
Reveals his wrongs, with ghastly visage wan
The plunder'd owner stands; and from his lips
A thousand thronging curses burst their way:
He calls his stout allies, and in a line
His faithful hounds he leads; then with a voice
That utters loud his rage, attentive cheers:
Soon the sagacious brute, his curling tail
Flourished in air, low bending plies around
His busy nose, the steaming vapour snuffs
Inquisitive, nor leaves one turf untried,
Till, conscious of the recent stains, his heart
Beats quick; his snuffling nose, his active tail,
Attest his joy; then with deep op'ning mouth
That makes the welkin tremble, he proclaims
Th' audacious felon; foot by foot he marks
His winding way, while all the list'ning crowd
Applaud his reas'nings. O'er the wat'ry ford,
Dry sandy heaths, and stony barren hills,
O'er beaten paths, with men and beasts distain'd,

olfactory organs are inferior to those of the stag-hound; and the reason, in fact, why well-bred stag-hounds distinguish the blown or hunted deer from the herd, is entirely owing to their proximity to the talbot; while the fox-hound, by being farther removed, is unable to distinguish the hunted or blown fox, when another fox happens to come in the way during the chase.

I have frequently thought, that the size of the ears is a criterion, in some degree, of the sense of smell. The talbot has amazing large ears; the stag-hound's are smaller; the fox-hound's, the smallest of the three.

The pointer is remarkable for a broad, capacious head, as well as for large pendant ears; and those setters distinguished for the goodness of their olfactory powers, will be found to possess a very considerable expansion of the head, though their noses may taper more than the nose of the pointer. Thus, at first glance,

> Unerring he pursues; till at the cot
> Arrived, and seizing by his guilty throat
> The caitiff vile, redeems the captive prey;
> So exquisitely delicate his sense!

The above description is faithful and highly picturesque, presenting a curious picture of the blood-hound's use in ancient times, when the word *police* was almost unknown.

In speaking of the pursuit of Robert Bruce by Edward I. an old manuscript says:

> "The king Edward, with horn and *hounds* him sought,
> With men on foot, through marshes, moss, and mire,
> Through woods also, and mountains where they fought."

In 1803, the Thrapston Association for the prosecution of felons in Northamptonshire, procured and trained a blood-hound, for the detection of sheep-stealers. To prove the utility of the dog, a man was despatched from a spot where a great concourse of people were assembled, at *ten* o'clock in the forenoon, and at *eleven* the hound was laid on the scent; after a chase of an hour and a half, the hound found him secreted in a tree, many miles distant from the place of starting.

a bull-dog will be supposed to excel in this respect; but, on examination, it will be found, that his head is rather chubby than broad, while the skin about the mouth is comparatively inflexible and compressed, his under jaw projected, and his nostrils thrown so far back as to prevent that immediate contact with external objects which is seen to obtain in the dogs before mentioned; yet, notwithstanding all these objections, the bull-dog's sense of smell is of the superior order, which arises, no doubt, from the capaciousness of his head.

The sense of smell, like most other faculties, is improved by practice. Dogs which are kept in towns, and but little exercised, will always be found inferior to such as are quartered in the country.

THE FOWLING-PIECE.

Shooting is one of those fascinating amusements which charms alike youth and age; and even those veterans, whose advanced years and consequent infirmities offer an insuperable barrier to the pursuit of their favourite sport, uniformly imagine they feel a sort of renovated vigour on the approach of the shooting season: if the subject be mentioned in their presence, their eyes not only assume an unwonted vivacity, but glisten with delight, —they prepare for the first of September, as if they were still able to take the field, and many have been known to purchase new guns when they were no longer able to hold them to their shoulder. More than once have I marked the extraordinary exertions of the veteran sportsman, climbing, with unwonted energy, the grouse-mountains on the 12th of August, and have often wondered how the feeble frame and tottering limbs could support them. But it is the *mind* in this case, as well as in

others, that gives unusual vigour to muscular motion, and enables the body to support a continuance of extraordinary and unaccustomed fatigue.

Shooting has undergone a great variety of alterations and improvements; and, although the bow (long or cross) is an instrument of a much more ancient date than the gun or the fowling-piece, and was no doubt used in field-sports of remote periods, it could only be effectively applicable to stationary objects. Notwithstanding this, there are not wanting writers who assert that the savages in some parts of the world, accustomed from their earliest years to the use of the bow, (that is, the long bow) will bring down birds on the wing with it, and that too with unerring certainty. For my own part, I consider such accounts as *drawing the long bow* with a vengeance, and nothing short of ocular demonstration would induce me to credit that which appears impossible. I am not prepared to deny that wonderful dexterity may be acquired by continual practice, and that a moving object might be struck by an arrow; yet, what sportsman who reflects for a moment would believe that a grouse or a partridge could be thus unerringly brought down?

The *long bow* in this country is still an instrument of amusement, but has been long rendered inapplicable either to war or the chase. The same remark does not exactly apply to the *cross bow*, for, though it is no longer of service in battle, it is used, and very effectively too, in an apology for field sports—I mean *rook-shooting*. Could the bow have been rendered effectual in the pursuit of feathered game, in all probability the net and the hawk would never have been introduced, as the fowling-piece has completely superseded both. Yet the shooter of yore must have presented a very different appearance from the highly-accomplished sportsman of modern times, when it is considered that the ancient gun was so very different in form from the fowling-piece of the present day, as scarcely to be recognised as the

parent stock whence every subsequent improvement has emanated.

The *musket* was evidently the original instrument whence the fowling-piece originated; and the first hand-guns* were introduced into this kingdom when Edward IV. landed at Ravenspur, in Yorkshire, in the year 1471; he brought with him, among other troops, three hundred Flemings, armed with "*hange gunnes;*" though several writers on the subject date their introduction fifty years later, and assert that they were first introduced at the siege of Berwick, in 1521, and called *hand cannon.*

The hand-gun originally used in this country was a short instrument, as may be gathered from the statute of the thirty-third of Henry VIII. whereby it is enacted, that "no hand-gun should be used of less dimensions than one yard in length, gun and stock included." The hague-but, or hack-but, was a still shorter piece, as the statute just quoted states, that it might not be under three-quarters of a yard long, gun and stock included. Some are of opinion that this was called a hague-but, from the but end being bent like those now used, the stock of the hand-gun being nearly straight. There were also guns called demi-hagues, either from being less in size, or from having the buts less curved; and likewise a sort of pistol named a *dog.* The harquebuss Fauchett derives from the Italian *arca bouza,* or the bow with the hole, and it is the most ancient fire-arm mounted on a stock. It does not appear that harquebusses were originally of any particular length or bore. All kinds of fire-arms were at first discharged with a match; and, after some time, the wheel-lock was introduced; the former, by a spring, let down a burning match upon the priming in the pan, while the latter was a contrivance for producing sparks of fire by the friction of a notched wheel of

* Cannon, or great guns, were invented and brought into use long before hand-guns.

steel which grated against a flint; and these wheels were wound up with an instrument called a spanner. There was another engine, called a petronel or poitrinal, which, according to Fauchett, was the medium between the harquebuss and the pistol. Nicot, however, says it was a species of harquebuss shorter than the musket, but wider in the bore, and which, on account of its weight, was carried on a bawdrick worn across the shoulders like a sash, and when discharged was rested on the breast of the person who used it.

From a military treatise, written in the year 1619, the following observations are extracted:—"He that loves the saftie of his own person, and delights in the goodness and beautie of a peece, let him always make choice of one that is double-breeched, and if it be possible a *Myllan* peece, for they be of tough and perfecte temper, light, square, and big of breech, and very strong where the powder doth lie, and where the violent force of the fire doth consist, and, notwithstanding, thinne at the end. Our English peeces approach very near unto them in goodness and beautie, (their heavinesse only excepted,) so that they may be made on purpose, and not one of those common sale peeces with round barrels, whereunto a beaten souldier will have great respect, and choose rather to pay double money for a good peece, than to spare his peece and endanger himself.

"One of the greatest helpes consist in pouder and match; for a souldier must even buy his pouder sharpe in taste, well incorporate with saltpetre, and not full of coole-dust. Let him accustome to drie his pouder, if he can in the sunne, first sprinkled over with aquæ vitæ or strong claret wine. Let him make his tutch-pouder, being finely sarsed and sifted, with quick pale, which is to be bought at the pouder-makers or apothecaries; and let his match be boiled in ashes-lie and pouder, that it will both burne well, carrie a long coale, and that will not break off with the touch of his finger. The preparations will,

at the first touch, give fire, and procure a violent, speedy, and thundering discharge. Some use brimstone, finely poudered, in their touch-pouder, but that furs and stops up your breech and tutch-hole.

" The bullet of a souldier's peece must be of a just bignesse with the mouth of the same, so that falling in smoothly, it may drive down and close up the mouth of the pouder. If the stocke of his peece be crooked, he ought to place the end juste before the right *pappe;* if long and straight, as the Spaniards use them, then upon the point of his right shoulder, using a stately upright pace in discharge. The musquet is to be used in all respects like the hargabuse, save that in respect it carries a double bullet and is much more weightie. The souldier useth a staffe breast high, in the one end a pike to pitch on the ground, and in the other an iron forke to reste his peece upon, and a hole a little beneeth the same in the staffe: whereunto he doth adde a string, which tied and wrapped about his wrest, yealdes him commodity to train his forke or staffe after him, whilst he in skirmish doth charge his musquet afresh with pouder and bullet."

The musquet was evidently a heavier kind of harquebuss; and Sir Thomas Rellie, in his Art Militaire, published in the year 1621, observes, that the barrel of a musket should be four feet in length, the bore capable of receiving bullets, twelve whereof weigh a pound. Muskets varied in size; and some were made sufficiently wide to carry balls, ten of which would weigh a pound. The rests from which these uncouth engines were fired, would most likely vary according to the height of the man, and sometimes these rests were armed with a contrivance called a *swine's feather*, a sort of sword blade or tuck that issued from the staff of the rest at the head; and this being placed before the musketeers, when loading, served, like the stakes put before the archers, to keep off the cavalry. These

preceded the introduction of the bayonet, the invention of which arose from the soldiers inserting the handles of their daggers into the muzzles of their pieces when they had discharged all their ammunition. The regular introduction of bayonets took place in France about the year 1671, and the first corps armed with them was a regiment of fusileers; the term *bayonet* was derived from these instruments being first manufactured at Bayonne. They were called by the French *bayonets à manche*, or bayonets with handles; and many of them may still be seen in the small armoury in the Tower of London. The bayonets now in use were termed *bayonet à douille*, or bayonets with sockets, but when the present fashion of the bayonet was adopted in England is not well known.

In an engagement where there were three French regiments whose bayonets were made to fix on in the present form, so as not to prevent loading and firing (a contrivance then unknown to the English), one of them advanced against the 25th regiment with fixed bayonets; Lieutenant Colonel Maxwell, who commanded it, ordered his men to screw their bayonets into the muzzles of their muskets to receive the enemy, thinking they meant to decide the affair point to point; but, to his great surprise, before the opposing parties could join, the enemy threw in a heavy fire, which for a moment staggered the British, who by no means expected such a greeting, conceiving it impossible they could fire with fixed bayonets. The British regiment, nevertheless, recovered itself, charged, and drove the enemy out of the line. This circumstance is said to have occurred in one of the campaigns of William III. in the Low Countries.

The *caliver* was a lighter kind of a musket with a match-lock, and was intended to be fired without a rest. Pecke, in his Desiderata Curiosa, states the price of a caliver and its accoutrements, as paid in Queen Elizabeth's time by the sheriff of Lancashire, for the use of the recruits raised for the Irish ser-

vice, (i. e. the caliver, furnished with flaske, touchebox, laces, and moulds,) at thirteen shillings and sixpence.

In the reign of James II. the first step was taken towards the abolition of the use of pikes in England by the practice of placing the dagger into the muzzle of the musket, in order to protect the musketeers from being charged by the cavalry immediately after they had discharged their pieces. This manœuvre, which, as I have already observed, was adopted by the French about the year 1671, and taken from them into our service some years after, was confined to the grenadiers only. The present construction of the bayonet is described in a book of exercise for the horse dragoons and foot, printed by authority in the year 1728.

The bayonet superseded the lance, the match-lock was exchanged for the *snap-lance*, (the original name of the present lock,) some time in the early part of the reign of William III.; but this change seems not to have taken place suddenly; it was accomplished by degrees, and therefore an exact period for it cannot be positively assigned.

Hence may be seen the origin of that essential article to the sportsman—*the fowling-piece;* and as the changes in the form and make of the musket have been progressive, the fowling-piece has experienced still greater improvements, and has perhaps nearly, if not altogether, attained the acmé of perfection.

There are few persons, sportsmen or others, who have not heard of the superior excellence of *Spanish barrels;* but whether they ever deserved the character they acquired, and the preference given them, is somewhat doubtful. Spanish guns always were, and still continue to be, very awkward-looking instruments; and, from the circumstance of the same person manufacturing the whole gun-barrel, lock, stock, &c. it is not likely the same perfection can be attained, as the English fowling-

pieces display, the manufacture of which is judiciously subdivided among several persons. The Spanish iron, especially that of Biscay, was supposed to be the best in Europe; and the Spaniards formerly possessed the reputation of forging and boring their barrels with more care than other nations. The barrels made at Madrid were said to be composed of the old shoes of mules and horses collected for the purpose; and we are gravely told, that "some idea may be formed of the very great purity to which the iron was brought in the course of the operation, when it is known that to make a barrel which, rough from the forge, weighs only six or seven pounds, they employ a mass of mule shoe-iron weighing from forty to forty-five pounds, so that from thirty-four to thirty-eight pounds are lost in the beatings and hammerings it undergoes before it is forged into a barrel." However, of the Spanish barrels, those only that were made in Madrid were accounted truly valuable; and, in consequence of this predilection, numbers were manufactured in various parts of Spain, and also in other countries, and the marks of the Madrid gunsmiths surreptitiously put upon them: nor have I the least doubt that most of the barrels, of late years sold in this country as the workmanship of Spain, were manufactured in Birmingham. There are, however, many persons still to be found who have a very high opinion of Spanish barrels; and those made by men who have been dead many years are held in the greatest estimation. A writer, speaking of Spanish barrels, says, the true ones are made of iron, worn and beaten for a long time, as heads of nails in the shoes of mules, which travel with a slow and incessant pace along the hard roads; but that a very small proportion of the great quantity of Spanish barrels sold in all parts of Europe can have this advantage. He adds, that the Corsican iron has a toughness nearly equal to that of the prepared iron of Spain; and the metal of the Corsican barrels, well made, is little inferior to the generality of Spanish ones.

Whatever may be the material from which the barrel is manufactured, whether made from Spanish mule-shoe-iron or otherwise, the first object in the choice of a fowling piece ought to be *safety;* and whatever may be the weight of the barrel, the metal should be so disposed as to prevent even the remote probability of bursting. In double guns, the stoutness of the barrels is indispensable, if the shooter has any regard to his own safety; for in light double-barrel pieces, the firing of the one will frequently loosen the charge in the other barrel, and should the shot be shaken so as to leave the powder a few inches, and the second barrel fired with the muzzle pointing downwards, it will most likely burst. The lower or breech end of all barrels should be made very strong; it is of little consequence how thin the muzzle end may be; it is the instantaneous expansion which ensues on the ignition of the powder which puts the barrel to the test; and the moment the charge commences its progress up the barrel, as it were, all danger of bursting has passed away.

It has been supposed that barrels forged from steel are lighter, safer, and shoot stronger than all others; but it has been satisfactorily ascertained that, where steel was used, the barrel neither welded nor bored so perfectly as when iron alone was employed. There are various kinds of barrels, which pass under different denominations, such as twisted stub barrels, wire-twisted barrels, Damascus barrels, and common barrels. Twisted stubs are old horse shoe nails twisted together; there are also iron-twisted, inferior to the former. Wire-twisted are stubs drawn into wire and then twisted and formed into the barrel.—Damascus barrels are iron and steel curled together, which gives the barrel a beautiful appearance. And I have reason to believe, not only from experience, but also from the opinion of an excellent gun-smith, that twisted-stub barrels are to be preferred to all others. Damascus barrels are inferior even to common twisted stubs; though, as they bear a foreign name, and as the

peculiar curling of the iron and steel gives them a pleasing appearance, they have of late been in request; and, as the English gun-makers found it inconvenient to import a sufficient number, they did not hesitate to manufacture Damascus barrels, and not more than one real barrel of this sort out of a hundred, perhaps a thousand, is to be met with. It is well known that the temper of the Damascus scimitars is superior to any other; and there is every reason to believe that the originals of what are called Damascus barrels were absolutely manufactured at the place, the name of which they bear; a real Damascus barrel occasionally reaches this country, generally through Russia; and the few which have fallen under my observation are certainly much superior to those manufactured in England, and distinguished by the same appellation.

No fowling piece should ever be put into the hands of a sportsman which has not undergone the most incontestible scrutiny or proof. Many barrels have burst, after having gone through the Company's or Tower proving-house, and received their mark as a guarantee of their safety; and, in all probability, the only mode of ascertaining the indisputable safety of a barrel is by the water-proof.

The old mode of proving gun barrels, as used at the king's proof-house was to load the barrel with powder equal to the weight of the ball which fitted the bore; but this has been altered by an act of parliament obtained by the Birmingham Proof Company; and also at the Company of Gun-Makers' proof-house in London; by which the proof is reduced to nearly one third less of powder. To say nothing of any indefinite satisfaction thus to be derived, all fowling-pieces should be submitted to the test of the water-proof; that is, water should be forced into the barrel with a proper apparatus.* This process will discover

* Some idea may be formed of the nature of this proof or pressure from the following: —That water is the most fluid penetrating body next

the slightest defect, by the oozing through of the water which is forced down. By the old method, a barrel was obliged to stand three days after proof before it was examined as to its safety, but proof with water is infinitely more efficacious, and, consequently, more satisfactory.

This part of my subject very consistently brings me to the examination of some crude notions of EZEKIEL BAKER, which, though they have been committed to the press with a studied affectation of candour and plausibility, are by no means consistent with that philosophic simplicity which a slight glance at his

to fire, and the most difficult to confine, is incontestibly proved by a variety of experiments. A vessel through which water cannot pass may be said to retain any thing. It may be objected, indeed, that syrups, oil, and honey, leak from some vessels that water cannot pass through; but this is far from being the result of the greater tenuity and fineness of their parts; it is owing to the resin with which the wood of such vessels abounds, which oils and syrups have a power of dissolving; so that these fluids, instead of finding their way, may more properly be said to *eat* their way through the vessels that contain them. However, water will at last find its way even through these; for it is known to escape through vessels of every substance, glass alone excepted. Other bodies may be found to make their way out more readily indeed, as air, when it finds a vent, will escape at once; and quicksilver, because of its weight, will quickly penetrate through whatever chinky vessel confines it; but water, though it operates more slowly, yet always finds a more certain issue. As, for instance, it is well known that air will not pass through leather, which water will very readily penetrate. Air also may be retained in a bladder, but water will quickly ooze through. And those who go to the greatest degree of precision, pretend to say that it will pass through pores ten times smaller than air can do. Be this as it may, we are very certain, that its parts are so small that they have been actually driven through the pores of gold. This has been proved by the famous Florentine experiment, in which a quantity of water was shut in a hollow ball of gold, and then pressed by a huge force with screws, during which the fluid was seen to ooze out through the pores of the metal, and stand like a dew upon its surface.

"*Remarks on Rifle Guns*" might induce a superficial observer to suppose constituted the very essence of his publication. "On the 19th of February" (says Ezekiel Baker) "I proved a pair of double barrels on the percussion principle; and, though one pair had been proved at the Company of Gun-Makers' proof-house, both in their single and double state—had stood the proof, and were marked as sound barrels—had been afterwards proved by me in the usual manner, both regular and water-proof; yet, when I proved them by the percussion principle, both barrels bulged, were much shivered, and were, consequently, spoiled.

"The other pair had undergone the strictest proof at my proof-house," (continues the writer,) "and such as would be generally considered sufficient to justify the strongest recommendation for safety; yet, on trying them by the detonating principle, the result was the same—both barrels were seriously injured.

"Feb. 22, 1823.—I have this day tried another pair of barrels" (says Baker) "which had undergone the regular proof, and which I had absolutely fitted to the stock for sale, by specific order—both barrels failed.

"Thus, for the purpose of satisfying numerous enquiries, for my own satisfaction, and on the principle of endeavouring to prevent the fatal accidents which are daily occurring, have I, at some expence, made these trials, in the hope of conducing to perfection in the use of rifles and fowling pieces; but, above all, with an anxious desire to avert the dreadful calamities which may arise from pursuing a favourite recreation.

"These barrels had stood every proof which is usually considered safe; and yet, from the suddenness with which the powder is ignited by the detonating principle, all the barrels failed. Consequently, the result of these experiments convinces me, beyond any theoretical views entertained by others, that the proof of double barrels with the percussion locks can only be

satisfactorily proved by the detonating principle. Every other proof, however it may appear to pass the ordeal of safety, is not a sufficient guarantee: and I can only add to my former injunctions, that no gentleman should venture to use the double-barrel with the percussion lock, without having it first proved by its own strength and power."

Now, what does all this prove? Why, truly, that to charge a gun, fitted up on the detonating or percussion principle, not so large a quantity of gunpowder is requisite; or, in other words, that, from the instantaneous ignition of the gunpowder in the barrel, a less quantity of it will produce the requisite force; nor could Ezekiel Baker have brought forward more incontestible proofs of the decided superiority of the percussion principle, than what he has adduced in a tone of condemnation; for he clearly manifests the greater force with which the shot must be driven when the gun is discharged in the manner just mentioned. He tells us the barrels which he tried "had undergone the strictest proof at his proof-house, and such as would be generally considered sufficient to justify the strongest recommendation for safety, yet, on trying them by the detonating principle, both barrels were seriously injured." Thus, then, when the quantity of powder used in proving barrels is ignited by percussion priming, the force is so much increased, as to "seriously injure," if not burst the barrels; and that, too, even after the said barrels had withstood the severest test of proof by water. It hence results, not only that the principle in question is the best calculated, for the purposes of the sportsman, but advisable, above all, in the proof of barrels, as affording the best possible test of the strength of the metal, and, consequently, of the safety of those whose business or inclination induces them to use fire-arms.

Our author also enumerates what he calls the *advantages* and *disadvantages* of the percussion principle.—"ADVANTAGE.—By the detonating or percussion principle, the whole of the pow-

der is fired instantaneously; but the very quickness with which the powder is burnt, in my opinion, lessens its general effect; and I am satisfied more execution will be done at an equal distance with the charge from the common flint. Indeed, I have proved this fact, by many experiments from the same barrel.—In rain or snow, the percussion lock will act, from its detonating power, more correctly than the common flint lock; and this, by sportsmen, is considered its greatest and, I must confess it appears to me, its only advantage.

"DISADVANTAGES.—Although the powder in the barrel is fired much quicker, the barrel is necessarily more strained; and to this cause I attribute most of the accidents arising from the bursting of barrels: as it stands to reason that the suddenness of the ignition requires a greater thickness at the breech, and, consequently, that the barrel must either bulge or break, if it be not of a sufficient thickness to resist the power of the charge. This observation applies more particularly to double-barrelled guns when fired by percussion: and in all descriptions, the recoil to the shoulder is more powerful. If, on the other hand, I reduce the quantity of powder to prevent the chance of bursting, or to lessen the force of the recoil, then I can decide, from repeated experiments, that the same charge from the common flint lock is more effective, and throws the shot with more strength, and in greater quantity, to the object; and I am corroborated in this result by the practical test of many scientific sportsmen. I may be allowed to add, that, in my judgment, the percussion lock may mend a bad fowling-piece; but I never found it of peculiar advantage to a good one."

To me, I must confess, it appears most extraordinary that Mr. Baker should have made these remarks after what he has said about the *proof of barrels;* it is "passing strange," also, that, while he admits the superior force or strength with which the shot is thrown by the percussion or detonating principle,

he, nevertheless, says he is "satisfied more execution will be done at an equal distance with the flint." And when he follows up this assertion, by observing, "indeed I have proved this fact by many experiments from the same barrel," I can only say, that his experiments on this subject afforded very different results from those of many other persons. Further, I maintain, without the fear of demonstrative contradiction, that it is not possible to make any flint-lock, by any means whatever, shoot so strongly, or drive the shot with so much force, or so truly, as by the percussion principle.

As to the barrel being "necessarily more strained," this must always happen where the pressure or force is greater. If the same charge of powder be fired by percussion as with the flint lock, the force of the former will be found to exceed that of the latter to such a degree as would not fail to astonish those who had never made the experiment.

In fact, to sum up the whole, it may be justly remarked, that, by the percussion or detonating principle, a less quantity of gunpowder will produce the requisite force; and, from the very extraordinary rapidity with which the ignition of the charge of gunpowder in the barrel is accomplished, and from the effectual stream of fire which is driven into it, the discharge is produced much quicker, and consequently much better, that it is possible to effect by the flint-lock.

Such, indeed, is the difference of the two plans, or principles, that those who have used the percussion-lock would suppose the best flint-lock to hang fire, should one of these afterwards happen to fall into their hands.

There has not, I believe, ever occurred a single instance where a person having used a percussion-lock has laid it aside and recurred to the flint-lock, at least, since the great improvements that have taken place in the manufacture of the percussion powder, and also in the modes of applying it to the fowl-

ing-piece, and more particularly since the introduction of the copper cap.*

I feel a perfect conviction that there are very few sportsmen (I am inclined to think not one who has used it) who will not readily admit the decided superiority of the percussion principle, either as regards the weather, quickness, or effect—indeed, it appears to me a self-evident fact, that as, by the detonating plan, the shot is driven quicker and stronger (the latter being the consequence of the former,) it must be rendered more effectual than where, by a slower process, as in the flint lock, it is not possible it can reach the object with the same force or the same precision. Mr. Baker admits that the discharge of the percussion-gun is more instantaneous and much stronger; and yet, by a strange anomaly, declares, that he is "*satisfied more execution will be done at equal distance with the charge from the common flint!!!*"

When the percussion lock was first introduced, I was with difficulty prevailed upon to try it, as I could not conceive any improvement necessary or possible, believing that the fowling-piece had already attained the summit of perfection; but was soon compelled to admit its great superiority. I resolved to adopt it; several plans were submitted to my inspection, Forsyth's among the rest; I chose a sort of lateral magazine, which I was induced to believe possessed every possible advantage; and I must admit that it acted uncommonly well in a gun-smith's shop.* With a gun fitted up accordingly, I took the

* The magazine of Forsyth was the first plan which introduced the application of percussion-priming to the notice of the sportsman. This required more than ordinary attention, and yet became frequently out of order; various other magazines and plans were introduced, all objectionable; and, as they were attended with danger, and could never be depended on, so some of those who plagued themselves for some time with these ill-digested applications, became wearied with disappointment, and again made use of the old flint-lock.

field on the first of September; my dogs stood, and I walked deliberately up to the point; the birds rose, and my gun missed fire! it missed fire seven times successively! I sat down with as much philosophy as I could muster, and endeavoured to ascertain the cause of these vexatious miscarriages: at length, I was willing to suppose that I had rectified the error, and that I might depend upon my gun going. In the latter I was not mistaken, for on next pulling the trigger, the piece was not only discharged, but the lock and part of the stock driven off into the bargain! I afterwards tried several other modes; and though one or two plans answered tolerably well, yet I met with no contrivance whatever which gave me complete satisfaction till the *copper-cap* fell under my observation. This I have used for many successive seasons, and, as far as I am able to form an opinion, it is much preferable to every other mode.

From more than ordinary practice and attention, I feel no hesitation in stating, that, by the percussion-principle, the charge of powder in the barrel is ignited more instantaneously, and the combustion is more complete; the shot is, consequently, thrown or driven to the mark, with much greater force, precision, and effect; and this, too, will be accomplished with two-thirds of the common charge of gunpowder. It will be found, upon enquiry, (and I have repeatedly tried the experiment,) that whenever the percussion-apparatus is applied to the fowling-piece, (supposing one which had before been fitted up with the flint lock, and of indisputable merit,) the charge of powder may be reduced one-third, with advantage. Mr. Baker says, that the percussion-guns should be made very strong at the breech-end; in this, I not only agree with him, but I strongly advise every gun to be so made, and the percussion-gun, perhaps, in particular; I would also advise every sportsman, for the purpose of safety, not to be afraid of carrying an extra ounce or two, and he may rely upon it his piece will shoot the better for

it; though, as long as the breech-end is sufficiently strong, I am of opinion it matters not how thinly it tapers to the muzzle. The discharge of a light gun is uniformly attended with a very considerable recoil, and seldom shoots well.

In accidental, or chance shots, and also in woodcock or cover shooting, the percussion is preferable to the flint gun, from the superior rapidity of its discharge. In wet weather, and particularly amongst the drizzly rain on the grouse-mountains, the former will be found much more effective, particularly since copper caps are made *water-proof*, and can thus be had, I believe, at any gun-smiths. I am not aware, indeed, of any quality in the flint-lock which the percussion does not possess in a higher degree; while less is to be apprehended from it on the score of accidental danger.

On the subject of the percussion principle, compared with the flint lock, I was surprised at reading the following passage in Colonel Hawker's "Instructions," &c. He says a detonator "goes *quicker*, though not *stronger!*" This expression must surely have been made without due consideration, since it is clearly a self-evident fact, that the quicker the discharge, the stronger the shot must be driven. Or, supposing a cannon-ball to fly through the air at the rate of two miles in two seconds, and another to occupy six seconds in passing the same distance, can there be a doubt which of the balls will strike the object with the greater force? Further, I think no person will be hardy enogh to deny, that, generally speaking, projectile force must entirely depend upon its velocity. The colonel's remarks upon the comparative length of gun-barrels appear to me almost, if not equally, faulty.

Among the many improvements that have been made in the mode of discharging the fowling-piece, as well as in its construction, none have excited more attention, or produced opinions more diametrically opposite, than the length of the barrel. It was, at a period not very remote, generally supposed, that a

great length of barrel was indispensable, if the shot was to be driven any considerable distance; and pursuing this train of ideas, it was taken for granted, that the longer the barrel of the gun, the further the shot would be thrown; and hence we see, in many ancient halls and farm-houses, gun-barrels of such a length, that it is not without great difficulty they can be presented from the shoulder; some, in fact, require a rest, after the manner of the old harquebuss, mentioned at the beginning of this article, when they are to be pointed at any object. The length of the barrel is a matter which is involved in doubt, though abundant evidence has been obtained to prove that the antiquated notion of long barrels carrying the farthest is completely erroneous. After a great number of experiments, I have found that a barrel twenty-six inches long, of the common fowling-piece calibre, (five-eighths of an inch diameter,) shoots fully as strong, if not stronger, than any other greater length, though the difference between twenty-six and twenty-eight, or even thirty inches, is not very great; but for any increase of length beyond thirty inches, the difference or the decrease of force would very much surprise any person who had never witnessed the experiment. I have shortened five different barrels, gradually, inch by inch, for instance, and the result has invariably been the same; and, in these experiments, great pains were taken in regulating the charge, so that, in this respect, no perceptible variation could take place. Nevertheless, though a barrel twenty-six inches long (I have never tried one shorter) may impel the charge with more force than a greater length, yet I prefer a barrel a trifle longer, as it is pleasanter to load, and the aim may perhaps be better taken with it; yet, for my own choice, I would never exceed thirty inches.

At first sight it may be asked, how it happens that a long eighteen-pounder carries farther than a shorter cannon? To which it may be answered, that it is possible an increase of

length might be added, with advantage, to the longest eighteen-pounder in the service; since, on comparison, taking into consideration the difference of the calibre, a fowling-piece barrel, twenty-two inches in length, is proportionably longer than any cannon whatever.

If the bore, or calibre, of the fowling-piece, be made extremely wide, it will require a greater charge, and will, of course, admit of a greater length of barrel."

According to Mr. Robins, gunpowder fired in any space acts nearly in the same manner as a quantity of air would do, which was condensed a thousand times more than the common air we breathe, and which, in that condensed state, filled the same space that was taken up by the unfired powder. Hence it follows, that the pressure of the powder on the shot grows perpetually weaker and weaker, as the shot is further impelled before it; for, as the shot is impelled forwards, the inflamed powder occupies more space, and consequently its elasticity is lessened. In short, it is quite clear, if we reason upon the subject, that, in order to attain the greatest possible force, the shot should leave the muzzle of the gun the moment that the elastic fluid, generated by the explosion of the powder, has attained its greatest elastic force, or power of impulsion; if, after this precise instant, the shot has still to move farther up the barrel, it will have to contend against the lateral action, or friction, of the inner surface, as well as be directly opposed to the atmospheric air in front; and, therefore, a length of barrel beyond what I have already stated, cannot accelerate, but must necessarily retard, the flight or force of the shot. But to ascertain the precise point of perfection in this respect, will be found a very difficult matter, if it be not altogether impossible; as a variety of causes will be found to operate against what, for the want of a better term, may be called mathematical demonstration; amongst the most prominent of which may be mentioned, the quality of the powder, its

great susceptibility of variation from the influence of the weather, and the state of the atmosphere at the time of making the experiments. Sufficient, however, has been satisfactorily shown, to prove that long barrels are detrimental to the force of the shot, and that they consequently produce the very reverse of what they were intended to effect.

The *breeching* of the fowling-piece has been considered of essential importance, but is, I am inclined to think, of less consequence than is generally supposed. As to the best form of the breech, many opinions will be found to exist: there are few gunsmiths who will not tell you that they have made improvements in this part of the fowling-piece; and, of course, every one of these breech-improvers will recommend his own plan. It would, perhaps, be difficult to ascertain which is the best form of the breech, as a number of trifling variations have been effected, without any perceptible difference.

The elevated breech is a modern invention, and consists of a sort of broad rib which runs along the top of the barrel, thicker at the breech end, and tapering to the muzzle: by this contrivance, the muzzle acquires an elevation, and the shot is consequently thrown higher; for those, therefore, who are apt to shoot under or below the object, the elevated breech is to be recommended; but a straight stock will answer every purpose, and the barrels will have a neater appearance, and be stronger with the same weight of metal.

The *copper cap* is preferable to every other percussion principle; and the nipples, or touch-holes, upon which the caps are placed, should be screwed into the barrel on the upper part of the breech, in a sort of sloping direction.

Every sportsman, *in the choice of a fowling-piece*, should first consider the weight he can conveniently carry, strength being a most essential point to the shooting, as well as the safety, of barrels. After the weight of the barrel is fixed upon, the bore and

the length should be regulated accordingly; and I would recommend a narrow, in preference to a wide, bore. If the bore be wide, and the weight limited, the barrel must be weakened in consequence. The bore, or calibre, which takes sixteen balls to the pound, is, perhaps, the best calculated for general use; but suppose the weight of your barrels (I am speaking of double guns) be confined to four pounds, or four pounds and a half, (which is a good and proper weight for barrels,) the bore of which takes sixteen balls to the pound, if barrels of the same weight are made three-fourths of an inch in the bore, they are then not only much reduced in strength, and rendered unsafe, but do not shoot so well, for want of a due proportion of metal according to the size of the bore; besides, a wide-bored double gun, unless made excessively heavy, such as no gentleman would like to carry, is very unpleasant to use, as it must be loaded according to its bore; and, for want of sufficient metal, it recoils violently; when, on the contrary, barrels of a less bore, (sixteen or seventeen balls to the pound, for instance,) the same weight as the wide-bored ones, will shoot well and be perfectly safe. *Strength* is essential in barrels; yet I by no means recommend a fowling-piece unnecessarily heavy, that is, heavier than the sportsman can conveniently manage; since, if he becomes overpowered with weight and consequent fatigue, the pleasure otherwise arising from the charming diversion of shooting is supplanted by vexation and disappointment. If the weight be limited, the shorter your gun is, of course, the stronger it will be; and there is no weight, at least that a sportsman would choose to carry, that can improve the shooting of barrels above two feet four or two feet six inches long. There are many sportsmen who cannot prevail upon themselves to think that a short gun (two feet two or two feet four, for instance) will shoot as strong as one of a greater length (two feet eight, or two feet ten); yet such, on repeated trials, I have found to be the case; though I was told,

by a well-informed gunsmith, that there was more difficulty, or, at least, more judgment required, in making a fowling-piece under two feet five inches shoot properly, though I must confess I did not clearly understand his reasons for this opinion.

Of the *lock* little need be said. There are various trifling alterations in this essential article, according to the notions of different gunsmiths, which are, perhaps, equally entitled to consideration; yet, let the principle be what it may, the workmanship should always be of undoubted goodness or excellence; and a perfectly good lock will not only give the most unqualified satisfaction, but will be found, at the end of twenty years, (with proper care,) as good as the first day it was used: while an indifferent lock will be constantly out of repair, and very unsatisfactory to the owner; and, by the end of the first season, will have cost as much, in all probability, as the price of a lock of superior workmanship.

The *stocking* of the fowling piece must always be an object of the first consideration with the sportsman; as, supposing the piece to be of superior workmanship, and to shoot in a capital manner, it is of little service if it be not stocked exactly to suit the person who uses it; the fowling-piece, therefore, should be stocked the exact bend and length to suit the owner; at the same time, it should be properly *laid off*, a circumstance which is very much neglected by gunsmiths; indeed, many will be found who are altogether ignorant of the subject. The Birmingham gunmakers never pay the slightest attention to this particular; and the immense numbers of fowling-pieces which are annually vomited forth from this great and general manufactory, and spread all over the kingdom by means of spurious auctioneers, and professed swindlers, are never to be depended on: they are got up in such a manner as to appear well to the eye of a superficial observer, and are sold uncommonly cheap; yet they should be received with caution: it is true, a tolerable

article may be sometimes met with amongst the many thousands which are yearly sent forth; but they are always to be suspected, and are utterly unworthy of the attention of the sportsman. What is meant by the term *laid off*, is that peculiar form or method of mounting the stock, so as to bring the upper surface of the barrel in a direct line with the eye of the shooter. I would strongly advise sportsmen never to purchase a fowling-piece which they have not tried, and with the shooting of which they are not perfectly satisfied.

The *quantity of powder and shot* which constitutes the correct load or charge for the fowling-piece, is another circumstance which ought to be duly impressed on the mind of every shooter, and to which, I am inclined to think, not sufficient attention is generally paid. On trial, it will be found that all guns shoot the strongest the first discharge, or, in other words, when they are perfectly clean, and that the force decreases in exact proportion as the piece becomes foul; hence the necessity of occasionally wiping out the barrel during a long day's shooting. There is also a certain proportion of powder and shot which will exactly suit every fowling-piece; and to ascertain this should be the first object with all new guns. If a piece be overloaded with powder, the shot will *scatter* very much, and but few pellets will strike the object; whereas, if an insufficient quantity of powder be used, the shot will not be driven with sufficient force. Yet, it is more than probable, that a trifling variation will be found in all guns; or, to speak more plainly, it will be a difficult matter to find two pieces, though of the same length and calibre, which require precisely the same charge. A very good method of ascertaining the proper load for a fowling-piece is by firing at sheets of paper at given distances, and the progressive result will guide the shooter in the increase or decrease of either the powder or shot, or both.

On investigation it will probably be found, that the general

error in loading the fowling-piece, is using too much powder, which not only very much scatters the shot, but renders the recoil almost insupportable,—it is quite a mistaken notion to suppose that a distant object will be better reached by a large load of powder, or that the force of the shot is thus increased; as it will be found, on experiment, that those pellets which strike the mark are not so strongly driven as when a reduced, but correct portion of powder is used, to say nothing of the scattering of the shot, by which a small object will generally be missed. Hence, it is highly necessary that the correct charge should be ascertained, and uniformly adopted.

How far *platina* will resist the action of the fire of percussion-priming, (which is much more violent than the explosion of gun-powder,) I am not able to determine; and indeed this remark can only be applicable to those fowling-pieces which, though percussion priming may be used, are nevertheless discharged by the common touch-hole; but where the *copper cap* is employed for the purpose just mentioned, the pin, or touch-hole, should be examined once or twice during the season. I was not aware of the imperious necessity for this examination till two years ago; a brother sportsman informed me his pin, or touch-hole-peg, had blown out, and had struck him on the forehead. This circumstance appeared somewhat alarming; and I immediately unscrewed the touch-holes of the fowling-piece which I had used, without alteration, for two successive seasons. To my surprise, I found the bottom, or screw part, of each of them much worn by the action of the fire of the percussion priming, and in time, there is little doubt, they would have blown out*.

* The breeches for copper cap guns should have a bar of platina completely through them for the bottoms of the cones or nipples to be bedded on, with a hole bored through the platina, for the flame from the priming to communicate with the powder in the inside of the barrel. When so constructed, it is impossible that the cones can be blown

A supply of these touch-holes, therefore, should accompany every percussion gun, and the old ones removed as often as occasion may require, which will, of course, depend on the quantity of shots fired.

In regard to the simple article of *wadding*, it will be found, I rather think, that the shot is thrown with greater force where punched wadding (hat or thick card, for instance,) is used, though the shot may, perhaps, be carried closer where brown paper is substituted. Punched wadding is highly preferable for double guns, as it holds the charge much tighter and safer, and consequently when one barrel is fired, the charge in the other is not so liable to become loose, which endangers the bursting of the gun. On every view of the case, therefore, punched wadding is to be preferred.

Finally, it may appear unnecessary to remind the sportsman, that cleanliness in the fowling-piece is an object of the first importance. The bursting of barrels arises, in nineteen instances out of twenty, from the piece having been kept in a filthy state. Scarcely any gun, however inferior the materials be of which it is composed, if properly loaded and kept clean, will burst; but, whenever the inner surface of the barrel is suffered to become corroded, so as to form specks of rust, the gun is never afterwards to be depended on. Superficial rust amounts to nothing; but when a speck of rust is allowed to eat away the inner surface, moisture will always lodge in that particular spot when the gun is cleaned; thus corrosion continues to weaken the already injured part, till bursting becomes the inevitable consequence.

out, the hole through the bar of platina being merely a continuation of the hole through the cone.—If the bottom of the cone be properly bedded on the platina, neither the flame from the priming or the gunpowder can possibly affect any part but the inside of the cone. I once saw a gun, made by John Manton, with the cones *bushed* with platina, but, in my opinion, this is inferior to the common mode of making them.

Shot getting loose, as I have already observed, may produce the same effect; and the same remark will apply should the muzzle become stopped with dirt or snow; so that, on every view of the case, too much attention cannot be bestowed on the instrument so indispensable to the delightful recreation of shooting.

Cleaning the Fowling-piece.—Those who wish to shoot with pleasure and precision, as well as with safety, must keep the fowling-piece very clean. After returning from an excursion, though I may not have had a shot, and have only flashed the powder off prior to entering the house (a rule which I invariably observe,) the first object to which I dedicate my attention, after having taken a little refreshment, is the fowling-piece, which I clean thoroughly, not omitting the inside of the locks, should rain have overtaken me.

In commencing the operation of cleaning the fowling-piece, I first take the barrels out of the stock, which is effected by drawing out the ram-rod, and withdrawing the bolt, which holds them in the stock. With cold water I then wash the inside of the barrels, by means of a rod, to the end of which is attached a sponge or sheep's tail, fixed upon a piece of brass made for the purpose, and which screws into the end of the rod. I use two other similar sponges or sheep's tails, for the purpose of wiping the interior of the barrels perfectly dry; and a fourth for oiling the same part. Flannel or tow will answer the same purpose as the sponges or sheep's tails, but give more trouble in the operation. I afterwards oil the outsides of the barrels; which should be put within the heat of the fire for a few minutes before oiling.

The locks become the next object of consideration; (though unless the sportsman be caught in heavy rain, they will not require cleaning more than three or four times during a season;) with a small screw driver, I take out the side nails, and the locks, being set at liberty, as it were, I remove them from the

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stock. The interior of the percussion lock in general use is correctly represented in the annexed engraving, for which I am indebted to Mr. T. Williams, a very ingenious mechanic, superintendant to Mrs. Patrick, of Liverpool; under whose direction excellent fowling-pieces are manufactured. The workmanship is sound and good; they are very neatly finished; and shoot remarkably well. No. 1, is the cock; No. 2, the bridle; No. 3, the tumbler; No. 4, the sear; No. 5, the mainspring; No. 6, the swivel; No. 7, the sear-spring; No. 8, the lock plate.

The operation of taking the lock to pieces is very simple. In the first place, a spring cramp must be applied to the mainspring, by which means it is taken out; and the application of the spring cramp is so evident as to need no further description: the only caution necessary is to place the cramp as forward as possible. The reader will observe the heads of the screws presented in the bridle, No. 2; which he will easily draw out with the assistance of a small screw driver. The screw, which holds the cock upon the tumbler must then be taken off:—take a hammer and strike the point of the screw which is upon the tumbler. The lock will then be completely asunder. The various parts to be wiped clean, and a little oil placed upon the neck of the tumbler, the joints, and wherever there appears friction.

The flint lock varies in form from the percussion lock, as represented in the engraving, in the inversion of the mainspring, and which, in cleaning, requires the application of the spring cramp to it. Any person who will take the trouble to observe a gunsmith take the lock to pieces, and put it together, can be at no loss afterwards, particularly when assisted by the foregoing directions.

The stock of the gun should not be rubbed with animal oil, as it is *softened* by it; linseed oil is the best, which *hardens* it.

In putting the lock together, the operation should commence, as it were, where the taking to pieces finished; by putting the

tumbler into the cock, and driving it home; then screw on the tumbler pin; put the bridle on to the tumbler, and screw up the two bridle pins; put the sear-spring on the lock plate, and screw up the pin: Draw the cock up to the full, place the point of the sear into the half bent; and then with the thumb of the right hand force the sear against the sear-spring until the hole in the sear and that of the bridle become exactly parallel or even; when a passage is presented for the sear pin, which is to be screwed into the lock plate. You then return the mainspring to its place, when the lock is complete and may be screwed into the stock.

GUNPOWDER.

The first *fire* that was used in war occasioned as great (if not a more considerable,) alarm, as that caused by the explosion of gunpowder. It was called the *Greek fire*, and is said to have been discovered in very ancient times. It was the invention of *Callinicus*, an architect of Heliopolis or Balbeck, who left the service of a Caliph, and brought the important arcanum to Constantinople in the reign of Constantine Pagonatus. That emperor forbade the art of making of it to be communicated to any except his own subjects, and the secret was long preserved: it was, however, at length known among the nations confederated with the Byzantines. It is supposed to have been compounded of the gum of the pine and other resinous trees, reduced to powder with brimstone, to which were added naptha and other bitumens, and, according to some, the water of a fountain in the east, which had the property to amalgamate with these combustibles, and to render them more inflammable; but this last article seems hardly possible to have been included, as in that case it could have been only made where that water was to

be had, whereas it was in use both all over Asia and in Europe. Anna Comena says it was composed of bitumen, sulphur, and naptha.

The *Greek fire* was employed A. D. 883, by Nicetas, the high-admiral of the eastern empire, who was sent by the Saracens of Crete with a navy to assault Constantinople: he attacked and utterly defeated the enemy, burning twenty of their ships by "the *Greek fire.*"

Procopius, in his History of the Goths, calls it "Medea's oil," considering it as an infernal composition prepared by that sorceress. It is said to have been known in China, A. D. 917, three hundred years after Constantine Pagonatus, under the name of the "oil of the cruel fire;" and was carried thither by the Kitan Tartars, who had it from the king of Ou. This wonderful and destructive mixture twice preserved the metropolis of the Eastern Romans from the infidel armaments. The *Greek fire* is much spoken of in all the histories of the holy wars, as being frequently employed with success by the Saracens against the Christians. During the Crusades, and in the reign of Richard *Cœur de Lion*, we shall find, that it struck with dismay the most intrepid Christian knights, until a method of extinguishing it was discovered by the French. By the following description of it, given by Joinville, who was an eye-witness, it had somewhat the appearance of the *iron rockets* still used in India: he says it was thrown from the bottom of a machine called a *petrary*, and that it came forward as large as a barrel of verjuice, with a tail of fire issuing from it as big as a great sword, making a noise in its passage like thunder, and seeming like a dragon flying through the air; and, from the great quantity of fire it threw out, giving such a light, that one might see in the camp as if it had been day. Such was the terror it occasioned among the commanders of St. Louis's army, that Gautier de Cariel, an experienced and valiant knight, gave it

as his advice, that so often as it was thrown, they should all prostrate themselves on their elbows and knees, and beseech the Lord to deliver them from that danger, against which he alone could protect them: this counsel was adopted and practised; besides which, the king being in bed in his tent, as often as he was informed that the *Greek fire* was thrown, raised himself in his bed, and with uplifted hands thus besought the Lord; "Good Lord God, preserve my people!" But the great terrors it occasioned, the effects of this fire do not seem to justify, as a mode had been found of quenching it. We are told, some of their castellated cats (a covered shed, occasionally fixed on wheels, and which had crenelles and chinks, from whence the archers could discharge their arrows; it was used for covering soldiers employed in filling up the ditch, preparing the way for the moveable tower, or mining the wall; sometimes under the cover of this machine the besiegers worked a small kind of ram,) were set on fire, but the flames were extinguished. The *Greek fire* was thrown thrice in the night from the petrary, and four times from a large cross-bow: the blaze lighted by this composition was inextinguishable by water. Geoffry de Vinesauf, who accompanied Richard I. to the crusade, says of it, "with a pernicious stench, and livid flame, it consumes even flint and iron, nor could it be extinguished by water; but by sprinkling sand upon it the violeuce may be abated, and vinegar poured upon it will put it out. To these, some add urine, and even oil.

The following is a translation of some ancient lines, descriptive of the general opinion of its properties:—

"May the fiend fly away with this odious *Greek fire!*
"Not *water* to quench it, but *sand* we require;
"Then *vinegar's* acid its influence must lend us,
"And *lye* in its turn too must help to defend us.
"The Pagans alone by this pest are protected,
"'Gainst the Christians alone are its perils directed:
"By the Pagans 'tis armed by most foul incantation.
"Oh! save us, kind Saviour, from such conflagration!"

From other descriptions it appears, this composition was of of an unctuous and viscid nature, sticking to the objects against which it was directed. In land engagements and sieges, it was projected by the machines of the times, and at sea by hand, enclosed in vessels or phials, in which it was also kept and transported; it was likewise sometimes fastened to the heads of arrows: sea water, instead of quenching, seemed to give it new violence and activity.

Both parties used the Greek fire at the siege of Acre, A. D. 1190, and Father Daniel says, "this wild fire was not only used in sieges, but even in battles, and that Philip Augustus, king of France, having found a quantity of it prepared in Acre, brought it with him to France, and employed it at the siege of Dieppe, for burning the English vessels in that harbour. At several other sieges in France, it was also used; and an engineer, named Gaubert, a native of Mante, acquired the art of making it, which luckily for mankind, has been since lost." A composition something of the same nature was some years since invented by a chymist in this country, and who has an annual allowance so long as it shall remain a secret; our government being unwilling to increase the destruction and cruelty of war: a like discovery was made formerly in France or Holland, and for the like reason suppressed. It was supposed that this was what Earl Stanhope referred to, when he said in the House of Lords, "that the French were not only in possession of a secret respecting this unquenchable fire, but meant to practise it against our navy to its certain destruction." Notwithstanding they do not appear to be fond of coming close enough to our fire of common gunpowder, to enable them to apply any of this supposed more destructive material.

Greek fire was used long after the introduction of fire arms, particularly in sieges. When the Bishop of Norwich besieged Ypres, A. D. 1383, the garrison is said, by Walsingham, to

have defended themselves so well with stones, arrows, lances, *Greek fire*, and certain engines called *guns*, that they obliged the English to raise the siege with such precipitation, that they left behind them their *great guns*, which were of inestimable value. A great part of that army was soon after besieged in the town of Burburgh, by the French, who threw such quantities of *Greek fire* into it, that they burned a third part of the town, and obliged the English to capitulate.

Although the invention of gunpowder, with its application to fire-arms, may be ranked among the most important discoveries, yet the date of that invention, with the name of the person to whom mankind are indebted for it, are both equally unknown. From the number slain in engagements previous to its introduction, what, at first view of its fatal effects, might be deemed an additional and severe scourge, has rather proved beneficial to the human race, by reducing the destruction of the species in battle within narrower limits. Formerly, when men engaged *hand to hand*, they were so intermingled, that the only criterion of victory was, the having no more of the enemy to kill: the duration of sieges* has also been considerably shortened since

* A numerous train of artillery, with a few barrels of this wonderful powder deposited in a *mine*, soon batter and throw down the strongest walls; and indeed the greatest effects towards a victory and capitulation are brought about as much by the terror occasioned by the noise of the cannon, as the real mischief or slaughter, few men having sufficient firmness to stand their dreadful thunder; and it is undoubtedly a fact, that many a battle or town is won, more by the flight of those who are terrified at the sound of the artillery, than from the actual loss of those killed or wounded by it. At Gibraltar, on the memorable 13th of September, 1782, the casualties amounted only to sixteen officers and men killed, and sixty-eight wounded; a loss so trifling, as to be scarcely credible, that such a quantity of fire, in almost all its destructive modes of action, should not have produced greater effect with respect to the loss of men.

the use of gunpowder and artillery, by which the lives of many millions have been saved, who would otherwise have perished by hardships or disease, commonly in sieges more fatal than the sword, and in providing man with increased power over the animal world, and thus multiplying the catalogue of his food, the advantages derived from gunpowder are eminent.

The common story respecting the invention of gunpowder and artillery is thus related: about the year 1320, one Bartholdus Schwartz, a German monk, and student in alchymy, (a pursuit then much in fashion,) having, in the course of his experiments, mixed saltpetre, sulphur, and charcoal in a mortar, and partly covered it with a stone, it somehow took fire, and blew the stone to a considerable distance: thus, by one accident, furnishing the hints for making gunpowder, its force, and a piece of ordnance for using it; and it is worthy of observation, that *stones* are said to have been thrown from mortars long before *point blank* shooting was attempted: possibly this story may be true; but it does not at all follow from thence, that gunpowder was not *before known*, the same discovery having been frequently made by different persons engaged in the same study.

Many modern writers carry the *invention* of gunpowder, and even its application to *artillery*, back to very remote antiquity. The ingenious translator of the Gentoo Laws, finds *fire arms*, *gunpowder*, and *cannon*, mentioned in that code, supposed at least coeval with Moses. "It will no doubt (says he) strike the reader with wonder, to be informed of a prohibition of fire-arms, discovered in records of such unfathomable antiquity; and he will probably from hence renew the suspicion which has long been deemed absurd, that Alexander the Great did absolutely meet with some weapons of that kind in India, as a passage in Quintus Curtius seems to ascertain: gunpowder has been known in China, as well as Hindoostan, far beyond all periods of investigation." There is also, says Mr. Grose, the following an-

cient testimony to this point in Grey's Gunnery, printed A. D. 1731. In the life of Apollonius Tyanæus, written by Philostratus, fifteen hundred years ago, there is the following passage concerning a people of India, called Oxydracæ:—"These truly wise men dwelt between the Rivers Hyphasis and Ganges: their country Alexander the Great never entered, deterred not by fear of the inhabitants, but, as I suppose, by religious considerations, for had he passed the Hyphasis, he might doubtless have made himself master of the country all round them; but their cities he could never have taken though he had led a thousand as brave as Achilles, or three thousand such as Ajax, to the assault, for they come not out into the field to fight those who attack them, but these holy men, beloved by the gods, overthrew their enemies with tempests and thunderbolts shot from their walls. It is said, that the Egyptian Hercules and Bacchus, when they overran India, invaded this people also: and, having prepared warlike engines, attempted to conquer them; they made no show of resistance; but upon the enemy's near approach to their cities, they were repulsed with storms of lightning and thunderbolts hurled upon them from above."

Our countryman, Friar Bacon, whose works were written at Oxford about the year 1270, fifty years before the supposed invention by Schwartz, has expressly named the *ingredients of gunpowder* as a well-known composition used for recreation, and describes it as producing a noise like thunder, and flashes like lightning, but more terrible than those produced by nature, and adds, this might be applied to the destruction of an enemy by sea and land: Bacon acquired this composition from a treatise on artificial fire-works, written by one Marcus Græcus; the manuscript is still extant, and is quoted by the Rev. Mr. Dutens, in order to prove that gunpowder was known to the ancients; the composition therein prescribed is, two pounds of charcoal, one pound of sulphur, and six pounds of saltpetre, well pounded and

mixed together in a stone mortar; this is a better mixture for powder than many late in use.

Bishop Watson, in his Chemical Essays, remarks, that the history of the discovery of gunpowder is involved in much obscurity; the most ancient authors differing from each other in their accounts of this matter, and many of them confounding two distinct inquiries:—viz. the discovery of the composition of gunpowder; and the discovery of finding out the means of applying it to the purposes of war.

Polydore Virgil, who died in 1555, attributes the discovery of gunpowder to some very ignoble German, whose name he wishes might never be handed down to posterity. He further informs us, that this German invented also an *iron tube*, and taught the Venetians the use of *guns*, A. D. 1380. This, continues Dr. Watson, is the common account of the discovery of gunpowder: its truth, however, is rendered doubtful by what follows.

The battle of Cressy was fought in 1346, and an historian who lived at that time is quoted by Spondanus as affirming, that the English greatly increased the confusion the French had been thrown into, by discharging upon them, from their *cannon, hot iron bullets*. Three years before the battle of Cressy, the Moors were besieged by the Spaniards in the city of Algesiraz; and we learn from Mariana, the Spanish historian, "that the besieged did great harm among the Christians with *iron bullets* they shot." The same author adds, "This is the *first time* we find any mention of *gunpowder* and *ball* in our histories." The earls of Derby and Salisbury are mentioned by Mariana as having assisted at the siege of Algesiraz; and as they returned to England in the latter end of the year 1343, it is not an improbable conjecture, that, having been witnesses of the havoc occasioned by the Moorish fire-arms, they brought the secret from Spain into England,

and introduced the use of artillery into the English army at the battle of Cressy.

It was to cover the disgrace of the French arms that Edward was alleged to have used gunpowder, and to which was owing his success. This advantage the French might have resorted to, and fought the English by the same means; for father Daniel cites a record preserved in the Chamber of Accounts at Paris, to prove that the French had, and used, cannon in the year 1338. The charge in the Treasurer of War's Account in the above year was as follows: "To Henry de Faumachon for powder and other things necessary for the cannons which were before Puy Guillaume." N. B. Puy Guillaume was a castle in Auvergne. It is to be remarked that neither Froissart nor any one of the many historians who have described the battle of Cressy, has noticed the employment of the artillery there, except Vilani, an Italian author.

The use of guns in Spain, Anno 1343, is proof sufficient either that Schwartz was not the inventor of gunpowder, or that Kircher and others are mistaken in fixing his discovery so late as the year 1354. There is reason, notwithstanding, to believe that both gunpowder and guns were known in Germany, at least forty years before the period assigned by the Spanish historian for their first introduction into Spain. In the Armoury at Amberg, in Bavaria, there is a piece of ordnance, on which is inscribed the year 1303. This is the earliest account I have yet met with of the certain use of gunpowder in war; and it seems probable enough, as the Pope and the Duke of Bavaria are thought to have been the first Princes who made saltpetre in Europe. It ought not, however, says Dr. Watson, to be concealed from the reader, that Camerarius quotes a Danish historian as relating, that Christopher, King of the Danes was killed in battle by the stroke of a gun, A. D. 1280. Upon examining the passage quoted, it is only said that Christopher, the son of

King Waldemar, was killed in the beginning of an engagement by a gun, a warlike instrument then lately discovered. Now it appears, that Waldemar, Christopher's father, did not succeed to the crown of Denmark until 1332, and that his son was killed in a naval engagement several years afterwards, probably about the time stated by Munster for the earliest use of gunpowder in Denmark.

There are passages in the history of the English wars, which assert the employment of artillery antecedent to the above periods. For instance, if we are to credit John Barbour, archdeacon of Aberdeen, Edward III. had artillery in his campaign against the Scots, A. D. 1327, and which were described as

> ——— "Crakys of war,
> That they before heard never."

In 1339, at the siege of Stirling, the Scots used battering cannon, which certainly had been sent by their French allies. At the siege of Calais, in 1347, "gunners and artillers" appear in a M S. list of the English troops in the Harleian collection. The Earl of Pembroke, who commanded a British fleet, A. D. 1372, was taken prisoner by a Spanish squadron superior in numbers, and which were (perhaps for the first time) provided with cannon. Indeed we are shown that more than half a century afterwards the English ships of war had very few guns, seldom more than two, and those not mounted so as to be altered occasionally in their direction, a circumstance, the motion of the sea considered, which must have rendered them of little service.

In 1378 is the first authentic mention of the lately invented instruments of death to be found; for then Richard II. sent to Brest great quantities of saltpetre, sulphur, and charcoal, together with two greater and two lesser engines called cannons, and 6,000 stone bullets. John of Gaunt, who had the command of the army, attempted to take St. Maloes, but was baffled by the conduct of the great Du Guesclin, although, it is said, he had a train of 400 battering cannon playing upon the town.

The Flemings, in 1382, had a most dreadful piece of ordnance :—"it was (says Froissart) fifty feet long, and threw wonderfully large stones. Its report was heard five leagues by day, and ten by night; and its noise was so immense that one would have thought that all the devils in hell had a share in it."

In 1418, iron balls were not used for cannon in England, since in Rymer there is an order from King Henry V. to the clerk of the ordnance, and John Bonet, a mason of Maidstone, in Kent, to cut 7,000 stone shot in the stone quarries there; but there is reason to believe that the French had at that time, iron balls in common use, since at the attack of Cherbourg, towards the close of the year 1418, the Duke of Gloucester, who commanded the besiegers, was much annoyed by red hot balls fired from the town: a very singular occurrence, the state of artillery at that period being considered.

In 1428 the valiant and dreaded Earl of Salisbury fell by a cannon shot at the siege of Orleans, and was, according to Camden, the first English gentleman "ever slain therebye." Salisbury was reconnoitring the town from a high tower on the bridge, when the son of the master gunner of Orleans, pointed a cannon at the window and slew him; the ball carried away one of his eyes and his cheek, and mortally wounded one Sir Thomas Gargrave.

At the siege of Belgrade by the Turks, A. D. 1437, they were repulsed by the help of gunpowder, then used for the first time in that part of Europe. But the extreme awkwardness in the early construction of cannon, and the great cost of gunpowder, may fairly account for the preference still given to the old engines for discharging stones. Two pieces of artillery used at Dieppe in 1442, as represented by Pere Montfaucon, seem ill calculated for service; nor does there appear throughout the century any contrivance to elevate or depress the pieces; a deficiency

which must have rendered them comparatively useless.* It certainly was not for want of bulk that the artillery of the age failed in becoming respectable. We are told by Monstretel of a piece of ordnance which sent a ball weighing 500lbs from the Bastile at Paris, to Charenton in 1478. The cannon too used by Mahomet II. at the siege of Constantinople, were immense both in bulk and power. On the other hand, there was the culverin (a kind of light artillery, sometimes carried by one and sometimes by two men), and which was used by the Switzers at the battle of Morat, where 10,000 of them were so armed.

This weapon (an entirely different instrument from the long cannons formerly named coulouverines or culverines) seems to have been the parent of the musquet, and was placed on a rest to be discharged. But to return to the more immediate history of gunpowder, we find from Camden, in his life of Queen Elizabeth, that she was the first that procured gunpowder to be made in England, that she might not pray and pay for it also to her neighbours. At first, gunpowder was not granulated, but re-

* Edward IV. had field pieces when he defeated Sir Robert Wells at Stamford, 1469, and which was the first time they were employed by an English army. "The King, (says Leland) sparkeled the enemie with his ordnance, slew many of the commons, and thereby gained the victory." At the battle of Flodden, 1513, the Scots were much superior in ordnance: Borthwic, an engineer of eminence, had the management of it. Lewis of France had sent him to James with a large present of brass cannon, on each side of which was inscribed "Machina sum scoto Borthwic fabricato Roberto." This valuable train of artillery fell into the hands of the Earl of Surrey after the battle of Flodden, together with seven "faire culverines," called the *seven sisters*.—To his successful general, Henry restored his father's patrimony, the dukedom of Norfolk; and this honourable addition to his arms, that he was permitted to bear on the bend of his arms, the upper half of a red lion, painted as in the arms of Scotland, with the mouth pierced through with an arrow.

mained in its *mealed* state; it was then called *serpentine* powder. In several accounts of military stores during the reign of Edward VI. and Elizabeth, there are large quantities of serpentine powder.

The making of gunpowder after the most ancient manner:—

Anno 1380, saltpetre, brimstone, charcoal, equal parts.

Anno 1410, saltpetre three parts, brimstone two parts, charcoal two parts.

Anno 1480, saltpetre eight parts, brimstone three parts, charcoal three parts.

Anno 1520. The making best powder, saltpetre four parts, charcoal one part, brimstone one part.

Anno 1647. The best sort now made, saltpetre six parts, brimstone one part, charcoal one part.

The musket powder is now commonly made of saltpetre five parts, brimstone one part, charcoal one part.

The cannon powder, saltpetre four parts, one part charcoal, one part brimstone.

The Bishop of Llandaff, in his essay on the Composition and Analysis of Gunpowder, states, "that in the proportion in which they are combined, the manner of mixing, the goodness of the ingredients, and the drying of the powder after being made, its strength and excellency consist. Saltpetre, in its crude state, whether it be brought from the East Indies or made in Europe, is generally, if not universally, mixed with a greater or less portion of common salt: now a small portion of common salt injures the goodness of a large quantity of gunpowder; hence the very finest saltpetre becomes necessary to be used in its formation. The purest sulphur is that sold under the name of flowers of sulphur; but the roll sulphur being much cheaper than the former, and being also of a great degree of purity, it is the only sort which is used in the manufacturing of gunpowder. With relation to the charcoal, it has been for the most part believed

that the coal from soft and light woods was better adapted than the hard and heavy ones to the making of gunpowder; thus Evelyn says of the hazel, that "it made one of the best coals used for gunpowder, being very fine and light, till they found elder to be more fit." An eminent French chemist (M. Baume) has shewn from actual experiment, that this opinion in favour of coal from light wood is ill founded: he affirms, that powder made from lime tree coal, or even from the coal of the pith of the elder tree, is in no respect preferable to that made from coal of the hardest woods, such as guiacum and oak. This remark, if confirmed by future experience, may be of service; as it is not always in the power of gunpowder makers to procure a sufficient quantity of the coal of soft wood.

"The mixture of the materials of which gunpowder is made should be as intimate and uniform as possible; for in whatever manner the explosion may be accounted for, it is certain that the three ingredients are necessary to produce it. In order to procure this accurate mixture, the ingredients are previously reduced into coarse powders, and afterwards ground and pounded together, till the powder becomes exceedingly fine; and when that is done the gunpowder is made. But as gunpowder, in the state of an impalpable dust, would be inconvenient in its use, it has been customary to reduce it into grains, by forcing it, when moistened with water, through sieves of various sizes.

"The necessity of a complete mixture of the materials, in order to have good gunpowder, is sensibly felt, when such as has been dried, after being accidentally wetted, is used. There may be the same weight of the powder after drying that there was before it was wetted; but its strength is greatly diminished, on account of the mixture of the ingredients being less perfect. This diminution of strength proceeds from the water having dissolved a portion of the saltpetre (the other two ingredients not being soluble in water); for upon drying the powder, the

dissolved saltpetre will be crystallized in particles much larger than those were which entered into the composition of the gunpowder, and thus the mixture will be less intimate and uniform than it was before the wetting. This wetting of gunpowder is often occasioned by the mere moisture of the atmosphere. Great complaints were made concerning the badness of the gunpowder used by the English, in their engagement with the French fleet off Grenada, in July 1779; the French having done much damage to the masts and rigging of the English, when the English shot would not reach them. When this matter was inquired into by the House of Commons, it appeared that the powder had been injured by the dampness of the atmosphere; it had concreted into large lumps, in the middle of which the saltpetre was visible to the naked eye. If the wetting of gunpowder has been considerable, it is rendered wholly unfit for use; but if no other foreign substance has been mixed with it, except fresh water, it may be made into good gunpowder again, by being properly pounded and granulated. If the wetting has been occasioned by salt-water, and that to any great degree, the sea salt, upon drying the powder, will remain mixed with it, and may so far vitiate its quality, that it can never be used again in the form of gunpowder. However, as by solution in water, and subsequent crystallization, the most valuable part of the gunpowder, namely, the saltpetre, may be extracted, and in its original purity, even from powder that has been wetted by sea-water, or otherwise spoiled, the saving damaged powder is a matter of national economy, and deservedly attended to in the Elaboratory of Woolwich.

"The proportions," continues Dr. Watson, "in which the ingredients of gunpowder are combined together are not the same in different nations, nor in different works of the same nation, even for powder destined to the same use. It is difficult to obtain from the makers of gunpowder any information upon

this subject: their backwardness arises not so much from any of them fancying themselves possessed of the best possible proportions, as from an affectation of mystery, common to most manufacturers, and an apprehension of discovering to the world that they *do not use so much saltpetre as they ought to do*, or as their competitors in trade really do use. Saltpetre is not only a much dearer commodity than either sulphur or charcoal, but it enters also, in a much greater proportion, into the composition of gunpowder than both those materials taken together; hence there is a great temptation to lessen the quantity of the saltpetre, and to augment that of the other ingredients; and the fraud is not easily detected, since gunpowder, which will explode readily and loudly, may be made with very different quantities of saltpetre.

" Baptista Porta died in the year 1515: he gives three different proportions for the making of gunpowder, according as it was required to be of different strength, the quantities of the several ingredients contained in one hundred pounds weight of each sort of powder.

	WEAK.		STRONG.		STRONGEST.
Saltpetre	66⅔*lb.*	...	75*lb.*	...	80*lb.*
Sulphur	16⅔	...	12½	...	10
Charcoal	16⅔	...	12½	...	10
	100		100		100

" It is somewhat remarkable, that in these three powders the sulphur and charcoal are used in equal quantities. Cardan died about sixty years after Baptista Porta, and during that interval the proportions of ingredients of gunpowder seem to have undergone a great change. Cardan's proportions are expressed as follows:

	GREAT GUNS.		MIDDLE SIZED.		SMALL.
Saltpetre	50*lb.*	...	66⅔*lb.*	...	83⅓*lb.*
Sulphur	16⅔	...	13⅓	...	8⅓
Charcoal	33⅓	...	20	...	8⅓
	100		100		100

" For great and middle sized guns, we see a much greater proportion of charcoal than of sulphur was here used: at present it is in most places the reverse; or at least the charcoal no where exceeds the sulphur. The proportions are as under, for the best kind of gunpowder in England, France, Sweden, Poland, and Italy.

ENGLAND.	FRANCE.	SWEDEN.	POLAND.	ITALY.
Saltpetre 75*lb.*	75*lb.*	75*lb.*	80*lb.*	76½*lb.*
Sulphur 15	9½	16	12	12½
Charcoal 10	15½	9	8	12½
* 100	100	100	100	101½

" Several experiments have been made in France to ascertain the exact proportions of the several ingredients which would produce the strongest possible powder, and the result has been in favour of

Saltpetre	80*lb.*
Charcoal	15
Sulphur	5

And from hence it appears that, in a certain weight of saltpetre, the powder would produce the greatest effect when the weight of the charcoal was to that of the sulphur as three to one. On the other hand, experiments are produced from which it is to be concluded that in a certain weight of saltpetre the best powder is made when the sulphur is to the charcoal as two to one. From these different accounts it seems as if the problem of determining the very best possible proportions was not yet solved.

" In drying gunpowder, after it is reduced into grains, there are two things to be avoided, too much and too little heat. If the heat is too great, a part of the sulphur will be driven off, and thus the proportions of the ingredients being changed, the goodness of the powder, so far as it depends upon that propor-

* These were said to be the proportions of government powder.

tion, will be injured. In order to see what quantity of sulphur might be separated by a degree of heat not sufficient to explode it, I took," says Dr. Watson, "twenty-four grains of the powder marked FF in the shops, and placing it on a piece of polished copper, I heated the copper over the flame of a candle; the gunpowder soon sent forth a strong sulphureous vapour, and when it had been dried so long that no more fume or smell could be distinguished, the residue weighed nineteen grains, the loss amounted to five grains. The remainder did not explode by a spark like gunpowder, but like a mixture of saltpetre and charcoal, and it really was nothing else, all the sulphur having been dissipated. Gunpowder was formerly dried by being exposed to the heat of the sun; and this method still obtains in France, and in some other countries: afterwards a way was invented of exposing it to a heat equal to that of boiling water; at present it is most generally in England dried in stoves, heated by great iron pots; with any tolerable degree of caution, no danger of explosion need be apprehended from this method. All the watery part of the gunpowder may be evaporated by a degree of heat greatly less than that in which gunpowder explodes, that degree of heat having been ascertained by some late experiments to be about the six hundredth degree on *Fahrenheit's* scale, in which the heat of boiling water is fixed at two hundred and twelve. There is more danger of evaporating a part of the sulphur in this mode of drying gunpowder than when it is dried by exposure to the sun.

"The necessity of freeing gunpowder from all its moisture is obvious from the following experiment, which was made some years ago before the Royal Society. A quantity of gunpowder was taken out of a barrel and dried with a heat equal to that in which water boils, a piece of ordnance was charged with a certain weight of this dried powder, and the distance to which it threw a ball was marked. The same piece was charged with an

equal weight of the same kind of powder, taken out of the same barrel, but not dried, and it threw an equal ball only to one half the distance. This effect of moisture is so sensible, that some officers have affirmed that they have seen barrels of gunpowder which were good in the morning, but which became (by attracting, probably, the humidity of the air) entirely spoiled in the evening. To keep the powder dry, by preventing the access of the air, it has been proposed to line the barrels with *tin foil*, or with thin sheets of *lead*, as tea boxes are lined. Would it not be possible," asks Dr. Watson, " to preserve powder free from moisture, and from the loss of a part of its sulphur in hot climates, by keeping it in glazed earthen bottles, or in bottles made of copper or tin, well corked? The disposition to attract the humidity of the air varies in different sorts of powder; it is the least in that which is made from the purest saltpetre. Pure saltpetre, which has been dried as gunpowder is dried, does not become heavier by exposure to the atmosphere; at least, so far as my experiments have informed me, not amounting to above one seventy-second part of its weight. I rather think," continues Dr. Watson, " that it does not acquire any increase of weight; however, in order to judge with more certainty concerning the effect of sea salt when mixed with saltpetre, in attracting the humidity of the air, I made the following experiment: five parts of pure saltpetre, in powder, were exposed for a month to a moist atmosphere, but I did not observe that the saltpetre had gained the least increase of weight; for the same length of time, and in the same place, I exposed four parts of saltpetre mixed with one of common salt, and this mixture had attracted so much moisture, that it was in a state of fluidity."

Of all the powders which have fallen under my observation, Messrs. Lawrence & Son's of Battle, is the best. Some time ago, a powder was pompously advertised, with " *Sir Humphrey Davy*" attached to it, which did not answer the expectation in-

tended to be excited by the name of so great a chemist; and still farther to continue this feeling, the price was doubled. It is probable, that Sir Humphrey Davy had nothing to do with the manufacture of this article; nor is it likely, that either he or any other chemist should be so well acquainted with the process of making this combustible, as those who are in the constant habit of attending to it in all its different stages. Good powder is distinguished by the instantaneity of its ignition, by the clearness of its burning, as well as by its tinging the pan with a gold colour, and depositing little or no residuum or feculent matter; and these qualities Lawrence's powder possesses in an eminent degree.* In damp weather, however, powder will not burn so well,

* "The very fine breeding season (1823) had, with me, raised expectation to the tiptoe; and, amongst other preparatory matters, I determined to try the strength of different gunpowders, some of which are offered to the notice of the sportsman under high-sounding denominations. I, in the first place, made use of an instrument, called a *powder-tryer*, specially made for that purpose; and, after a number of experiments, not quite so satisfactory as I could wish, I had recourse to the fowling-piece; and, by weighing the charge, both powder and shot, with all possible accuracy, and firing at sheets of smooth close paper, I at length arrived at a result more satisfactory than that which I had derived from the tryer. The powder manufactured by Pigou and Co. and that made by Curtis and Harvey, as well as that made by Lawrence of Battle, are excellent, though, from repeated trial, the last was evidently the strongest, while the combustion seemed to deposit less feculent matter or residuum. Of six different samples of gunpowder which I tried, the three which I have mentioned were so far superior to the rest, that the latter are not worthy of enumeration; and in order that they all might be fairly tried, I had kept the samples in the same dry cupboard for several weeks prior to the experiments. Powder kept in a damp place, or even exposed to the action of the atmosphere, will lose much of its force, burn comparatively dull, and the explosion is followed by a greater deposition of extraneous matter or filth.

From these experiments, I was led to make a trial of *percussion pow-*

nor so clear; while the pan, instead of receiving the gold-coloured tinge from the explosion, will become foul, and exhibit strong marks of imperfect combustion. In hot or dry weather, powder

der, in order to ascertain how far it might be applicable for the charge as well as the priming; and for this purpose I had again recourse to the powder-tryer, fearful lest unpleasant consequences might ensue from prematurely firing it in the barrel of the fowling-piece. However, I derived nothing very satisfactory from my attempts with percussion powder, which not only deposited a very great quantity of residuum, but appeared to operate in a way altogether different from gunpowder. The ignition of the quantity of percussion powder with which I filled the tryer, produced a kind of liquid fire, which, issuing backwards through the touch-hole in considerable quantities, and emitting sparks, as it were, of the same fluid, repeatedly burnt my hand. I could not ascertain the strength of the percussion powder, so much more, comparatively, of the fire uniformly re-issuing from the touch-hole, than what is found to be the case with gunpowder, It is true, it generally moved the wheel of the tryer (though not always), but never drove it nearly so far as the explosion of gunpowder uniformly effected. Nor does the detonation appear either so loud or so instantaneous. I fired two ounces of percussion powder in the open air, by kindling it with a red hot poker, and the result followed which I have just mentioned, viz. the explosion was neither so loud nor so quick as gunpowder; while the board upon which it was laid, was much burnt, and a great quantity of feculent matter deposited. If a thimble full of percussion powder be ignited upon a plate, the combustion will break the plate; the same quantity of gunpowder kindled upon a plate, will explode more rapidly, and without breaking the plate.

Finally, from the result of my experiments, I felt a perfect conviction, that percussion powder (at least in its present state), however admirably it may act as a priming, is by no means calculated for the charge; unless, indeed, the explosion can be rendered much quicker, as well as the combustion much cleaner. Should any of your readers be disposed to try experiments upon this subtle composition, I would strongly advise them to be very cautious in their proceedings.

N. B. Percussion powder will ignite when brought in contact with highly-concentrated sulphuric acid: I have tried the experiment many

will burn remarkably well; I make a point, particularly when the atmosphere is hazy or heavy, to air my powder, as well as my gun before going out; and, for this purpose, I never suffer the flask to be out of my own hand—by holding the flask (a copper one) a short distance from the fire, the powder will be well aired in one or two minutes.

For ascertaining the strength of powder, gunsmiths generally make use of an instrument, which, I believe, is called a *trier*, and from which may be obtained tolerably accurate results: I prefer the fowling piece for this purpose: by adjusting the charge very exactly, and firing at paper many sheets in thickness, and at given distances, much satisfaction may be obtained, not only as to the quality of the powder, but of the manner in which the gun throws the shot.

Of PERCUSSION POWDER,

AND THE BEST METHOD OF MAKING IT.

Percussion powder differs from common gunpowder inasmuch as it ignites with a blow, or, in other words, with excessive friction; and contains so great a quantity of elastic fluid, that, on explosion, its expansive force, compared with gunpowder, is at least in the proportion of twenty to one, perhaps much greater.

How long the composition of percussion powder has been known amongst able and experimental chemists, I will not pretend to decide; but its discovery is not of a very recent date; and some years ago an attempt, which was made in France to

times. If the head of a pin be dipped in highly-concentrated sulphuric acid, and applied to the priming in a copper cap, it will ignite immediately, but not so instantaneously as when struck with a hammer, nor will the combustion be so complete,

introduce oxymuriate of potass into the manufacture of gunpowder, was attended with fatal effects.

Percussion powder may be made of oxymuriate of potass, sulphur, and charcoal. I tried a number of experiments on the above ingredients, and, after varying the proportion of each in every possible way, it appeared that the following were the best calculated for the purpose :—

Oxymuriate of potass, nine parts
sulphur, one part and a half
charcoal, one part

But I was surprised at the variations which might be made in the proportions or parts, without any perceptible difference in the result. One effect, however, I uniformly found, namely, excessive corrosion; and those who have been in the habit of using Forsyth's method are very well aware of the urgent necessity of cleaning the lock immediately after using, in order to prevent the destruction of the percussion apparatus, as one night only would produce a degree of rust scarcely credible by those unacquainted with the nature of oxymuriate of potass. Whatever advantages were to be derived from the use of percussion priming they were certainly much lessened by the trouble of cleaning, as the feculent matter deposited was much greater in quantity, and adhered with more obstinate tenacity, than that which is produced by the discharge of gunpowder; I was, therefore, pleased to find that the following, in a great degree, remedied the evil :—

Oxymuriate of potass, one ounce
antimony, one ounce

well pulverized, and made into a paste with spirit of wine in which a little rosin or gum mastic has been dissolved: it may be granulated by forcing it through a hair sieve when it is nearly dry, and will be fit for use without further trouble. If spirit of wine be not at hand, I believe vinegar, without either rosin or gum

mastic, will answer the purpose. Percussion powder is strong according to the force with which it is struck; if ignited by slow friction, the explosion is weak.

In making percussion powder, I would wish to impress upon the mind of the sportsman the strong necessity of caution in the preparation. The oxymuriate of potass should be pulverized separately upon a smooth stone (or a smooth hard board will answer the purpose), but with a wooden muller, as it would be apt to explode if rubbed with a heavy stone muller, particularly if great velocity were used. It is of no consequence how the antimony is reduced to powder; it may, indeed, be purchased at the druggists in powder, but seldom sufficiently fine for the purpose. However, when the oxymuriate of potass and the antimony are ground so as to be impalpable, they may be mixed with a pallet-knife (adding the spirit of wine or vinegar) and forced through the sieve as before mentioned. I have generally used spirit of wine in which a little resin has been dissolved, in preference to vinegar, because I am of opinion, that powder thus made up is not so apt to imbibe moisture. Eau de Cologne is supposed to be preferable to spirit of wine; but the difference when using the powder is imperceptible. Excessive friction from iron or steel, or other very hard substances, would, no doubt, ignite this powder; but it would be a difficult matter, however hard it might be rubbed between two pieces of wood, to produce combustion.

It has been before observed, that if sulphur and charcoal are used with the oxymuriate of potass, a great excess of corrosion will result from the explosion: but antimony corrects or neutralizes the acidity or corrosive quality of the oxymuriate of potass, and renders the powder less injurious, in regard to rust, than even common gunpowder; while it is, at the same time, in every other respect, superior.—An ounce of oxymuriate of potass, and an ounce of antimony, will make, I should suppose, about 10,000

primings. It may be mixed up in the manner before described in a few minutes, without the least danger. The oxymuriate of potass, when bought at the chemist's by single ounces, costs two shillings an ounce, and, I have no doubt, could be sold, with a reasonable profit, for much less; an ounce of antimony will cost a penny: so that, including the spirit of wine, the expense of two ounces of priming powder will amount to little more than two shillings. When the superior strength of percussion powder is taken into consideration, it is much cheaper than gunpowder; but, how far it is susceptible of application to fire arms beyond the priming has not been determined; yet the present forms of the breeches of guns are not calculated to admit of its use for the charge, on account of the very small quantity which would be admissible for that purpose. Nor, for the purposes of safety, would it be advisable to carry percussion powder in a spring-top flask, unless the springs were altogether made of something much softer than steel. If the sportsman thinks proper to carry percussion powder into the field, independently of what he has already prepared for priming, I know of nothing more safe or more convenient than a small wooden box.

From the following paragraph, it would appear that gunpowder may be ignited by percussion:—"From experiments made in the Laboratory of the Royal Institution, it has been found, that if gunpowder be mixed with pulverized glass, felspar, and particularly with harder substances, it may be inflamed by being struck violently on an anvil, though faced with copper, and struck with a copper hammer."

For military purposes, I should think percussion powder, for priming at least, an object of the first importance. However, as far as relates to the sportsman, the manufacturing of percussion powder by his own hands, or under his immediate inspection, is by no means necessary, since the copper caps, properly

primed, may be purchased at any gunsmith's at a reasonable price. In the first instance, the component parts of percussion powder were a matter highly interesting to the philosophic and inquisitive sportsman; but since the manufacturing of this article has become so general, and attained a degree of satisfactory perfection, it may be safely consigned to those whose business it is to supply the sportsman with this highly important improvement in the discharge of the fowling-piece.

Fulminating mercury was discovered many years ago by a Mr. Howard, but first applied to the fowling-piece by Mr. E. G. Wright, of Hereford.

FORCE OF PERCUSSION PRIMING COMPARED WITH GUNPOWDER.

At the distance of thirty yards, the percussion gun threw the shot round and well, and perforated, completely, twenty-nine sheets of strong writing-paper, with shot, No. 5:—with common priming and patent breech, nineteen sheets were perforated. When shot, No. 2, was used, it perforated two or three sheets more than No. 5, and tore the paper in a slug-like manner.

SHOT.

For general use, I prefer No. 5, as it will answer every purpose, snipe-shooting excepted, for which I should use much smaller. No. 6 or 7 will be found large enough for the early part of the partridge season; but I cannot agree with General Hanger, that No. 2 is decidedly preferable for all occasions, and

from one end of the season to the other.—Upon trial, I found that I could scarcely average three shots in a card (six inches by four) at the distance of thirty-two yards, with No. 2. With No. 5, I averaged 8; and the latter, too, were driven with a force more than sufficient for the purpose. Upon increasing the distance to forty-one yards, I could seldom put in more than one pellet of No. 2; No. 5, at the same distance, averaged four; No. 6 averaged five. As to the exact rotundity of shot, upon which shot-makers so much pride themselves, it amounts to little. If, when put into the gun, it be perfectly round, it will leave the muzzle in an angular shape, as may be ascertained by firing the charge into a cake of tallow.

THE PATENT CARTRIDGE.

I have used patent cartridges; not, however, with unqualified satisfaction. They increase the force of the discharge, but are not absolutely free from balling. Further, after a few shots, they become troublesome in loading, from not going easily down the barrel. Cartridges somewhat similar were used in the East Indies long before their introduction into this country. They are much used, I believe, by pigeon-shooters; but are scarcely worth the notice of the sportsman.

OF OIL,

AND THE BEST MODE OF CLARIFYING IT.

All vegetable oils possess a harder quality, and are more apt to become cloggy, than animal oils; and are, consequently, not so well calculated for the fowling-piece, the locks in particular.

Neat's-foot oil, and the oil from sheep's feet, generally contain a considerable quantity of feculent matter, which may be separated by the following simple process:—drop a few small pieces of lead into the bottle, and hang it in the sun for a week or ten days, when the residuum will sink to the bottom, leaving the oil remarkably pure, and admirably adapted for the purpose just mentioned. If it happens in the winter, when the sun is not sufficiently powerful, hang the bottle near the fire, to keep the oil perfectly fluid, otherwise the residuum cannot sink.—Goose grease, or the fat of fowls in general, will answer the purpose fully as well, if clarified in the manner above described.

THE POWDER-FLASK.

A copper flask is preferable to any other. The ingenious Baron de Berenger, a few years since, showed me a flask of his own invention, so contrived, that in case of ignition while pouring the gunpowder into the barrel, nothing but the mere charge would become ignited. The article was not so complete as the Baron wished, and I have not learned whether he has since perfected his invention.

SHOOTING.

There is perhaps no amusement whatever, in which success is so anxiously desired, or so confidently anticipated, as that of shooting, by the young sportsman, on the approach of the 12th of August or the 1st of September. It is a most fascinating recreation: though the disappointments which almost uniformly attend the noviciate are extremely mortifying; yet hope sustains

the spirits; every subterfuge is resorted to, on which to fix the blame of miscarriage, while the true reason is studiously kept out of sight:—the powder is bad, or the shot, or perhaps the fowling-piece is crooked; the game rises too near or too far off —every thing, in fact, will in turn be wrong, or at least be made to serve as a salvo, rather than the real cause candidly acknowledged, namely, lack of skill, or, rather, want of steadiness, in the sportsman.

A young shooter, on the first of September, is prepared for the field almost before the gray of morn will enable him to distinguish any distant object:—he directs his hasty steps to the place where he expects to find a covey. The dog *sets*, and, aware that the birds are under his nose, the tyro approaches the important spot with irregular step and a palpitating heart—the dog is motionless as a statue; his master has advanced one step before him, with such an increase of trepidation, as to be scarcely able to breathe—the awful stillness of a few seconds is interrupted by the sudden spring and screaming of the covey, and the shooter becomes so confused as to be incapable of levelling at any individual bird, and the whole fly away, leaving the sportsman much chagrined at the miscarriage. On the recurrence of several of these disappointments, the dog will become uneasy, and will not hunt with his wonted cheerfulness: the fall of the bird gives as much pleasure to the dog as to the shooter; and a capital dog, if no game be killed to him, will become careless, and eventually good for nothing. Practice, however, will soon overcome the obstacles just mentioned; and with an ordinary share of self-command, no person need despair of becoming a tolerable shot. By way of illustration, I will, once more, suppose the young shooter in the field, with two dogs: he perceives one drawing on the scent, and settling to a point—let him call out *toho!* holding up his hand at the same time: the word will induce greater care in the first dog, and if the other

should not be aware of the game, he will immediately look about him, and, seeing his master's hand, will keep his position (no matter what his situation may be, either before or behind the shooter) or, to speak as a sportsman, will *back*. I will suppose both the dogs perfectly steady—let the sportsman advance, deliberately, up to the setting dog; and, if the game should not spring, let him go before the dog—if the birds should run, instead of taking wing, he will be aware of the circumstance, by the dog following; but if the dog follows or *foots* too eagerly, he should be checked by the words *take heed!* These are anxious moments; but the sportsman must, nevertheless, summon all his fortitude, and continue as calm as possible, with his thumb on the cock: when the game springs, pull up the cock, select an individual object—if the bird flies straight forward, it is a very easy shot; let the sportsman direct his eye down the barrel, and the instant he perceives the bird on a line with the muzzle, let him pull the trigger; in levelling, however, the aim should be directed rather above, than below, the object; for the shot, if correctly thrown, will form its centre from the centre of the muzzle of the fowling-piece: nevertheless, in this respect allowance must be made for the trim of the gun, or for the manner in which it throws the shot, with which I am supposing the sportsman perfectly acquainted: the *elevated breech*, too, will have considerable influence—*see page* 168. If the bird should fly directly across, or only partially so, and thus describe the segment of a circle, the aim must be directed before the object; if with a common gun, four inches; with a percussion gun, two inches, supposing the distance to be about thirty yards. The average of shots is perhaps from twenty to thirty yards, though forty is quite within reach, and even fifty, particularly with a percussion gun—*see this article, page* 159, &c. When the bird flies in the shooter's face, as it were, or towards him, he should let it pass before he attempts to fire, or he will be almost certain to miss.

or a few inches in advance: the former is perhaps safer, in case the barrel burst; but I, nevertheless, prefer the latter, in order to prevent the gun becoming point heavy. I always ram *well home*—the powder, in a patent breech, if not more than a proper quantity is used, will always lie loose (and thus ignites much better) as the wadding cannot be forced farther than the top of the breech (and the closer the wadding fits the better); the shot should certainly be well rammed. The fowling-piece, too, will require wiping out once or twice in a hard day's shooting; also on going out in the morning, it should be aired by firing a little powder: if percussion priming is used, it will be necessary to place wadding over the powder in the barrel, or it will be apt to be driven out unexploded; such is the force of percussion priming, that it drives the atmospheric air with such violence before it, as to expel the powder before the fire reaches it. However, merely flashing off a copper cap only will sufficiently air the barrel.

Flints should be changed frequently, to prevent missing fire —this is avoided with the percussion priming.

It sometimes happens, that a sportsman may cock the gun, and, not firing, have occasion to let down the cock—in doing which, he should let the cock pass, and, bringing it back to the half-cock, make it *tell* well into the tumbler.

For partridges, a couple of good dogs is quite sufficient at once; but they should have been used to hunt together, and perfectly acquainted with each other; otherwise they will be jealous and commit many mistakes. To beat a country in a sportsman-manner, a person should not go straight through it: but form circles, as it were, traversing well the ground, and taking care to give the dogs the wind as much as possible; at the same time the sportsman should not be afraid of beating the ground over twice, where there is any reason to believe game is to be found. He who patiently beats and ranges his ground over and over again, will generally kill the largest quantity of

over and over

game; and will be sure to find it where it has been left by others. A hare will frequently suffer a person to pass within a few yards of her, without stirring; and birds will often lie so close, as to suffer themselves almost to be trod upon before they will attempt to rise.

It will be proper to observe in this place, that the shooter should never strike either bush or hedge, or indeed any thing, with his fowling-piece. Should he use the butt-end for this purpose, it is possible the cock may be caught by some branch, and thus cause the piece to be fatally discharged; on the contrary, should a bush, &c. be struck with the muzzle-end, the sportsman will be very liable to lose his shot. It is a good method to examine occasionally, in shooting in general, whether by any means the shot has moved.—Nor should sportsmen hold guns to each other to leap a ditch or climb a bank, since the muzzle will be towards the friend or the owner.—*De Berenger.*

If the sportsman use a double gun, and has discharged one of the barrels, he should, after ramming the wadding on the powder in re-loading, put the ram-rod down the barrel that has not been discharged, which will be less trouble than placing it under his arm, or otherwise; he can then put in the shot; taking care not to let any of the pellets fall into the loaded barrel (containing the ram-rod, or the latter will become fast;) and on taking the ram-rod out of the other barrel, he can instantly ascertain whether the shot has moved. In discharging one barrel of a double gun, the shot in the other will frequently be loosened, if paper or any such pliable wadding be used; but with card I never knew this to happen, though I invariably examine with the ram-rod, in the method above described, in order to avoid every possible danger.

Horses, where they can be used in shooting, no doubt diminish the fatigue; and if birds fly straight forward, it is very easy to shoot while on the saddle; the same remark will apply if the

birds rise or fly to the left: but the case is very different if they rise and make off on the right—the horse's head must then be instantly turned to that direction, or the game escapes. For this purpose, ponies are used, which have been so accustomed to the sport, as to be perfectly reconciled to the firing of a gun. However, on many of the grouse mountains, riding is altogether impracticable.

On an excursion to the Highlands of Scotland, the sportsman should provide himself with a case, containing every thing necessary, not only to clean his fowling-piece, but also to repair those parts which are liable to become broken or out of order, such as breaking of the cock, mainspring, &c. as gunsmiths, or indeed any person capable of doing these jobs, are seldom to be met with in these parts. On grouse shooting excursions in general, similar preparations should be made.

As to the colour of the shooter's dress, green is supposed to be the best in the early part of the season, and when winter approaches, a kind of light brown, resembling stubble: this last colour will be found to answer throughout the season.

The colour of a shooter's dress should be dependant on local imitations: those who are among mountains and rocky scenery, like the Tyrolese, for instance, would prefer gray, with collar, cuff, and lining, green: sports chiefly among beech and underwood, require a brown, bordering on orange; in heather, nothing is equal to plaids, chiefly green, purple, and black; in snow, a white smock-frock over your dress is useful. But what requires more consideration is the formation of a shooter's dress: —all tight ligatures, all weights injudiciously divided, and therefore laboriously carried, are additions to fatigue, and drawbacks to exertion of long duration.—*De Berenger.*

Grouse shooting is very laborious, and requires both judgment and experience, particularly in mountains to which the sportsman is a stranger. As the season is frequently very hot, it becomes

highly necessary to be clothed accordingly. The lighter the dress the better, taking care at the same time to let the garments next your skin chiefly consist of flannel. A flannel shirt and drawers are the best that can be used for this purpose, and ought, in fact, to be considered as indispensably necessary. Flannel, though so capable of administering warmth, is, notwithstanding, a bad conductor of heat; and, therefore, if the sportsman habituates himself to wear it, he will experience but little increase of heat in the summer on that account; at the same time it must be allowed, that nothing will so effectually absorb the moisture which arises from excessive perspiration, and consequently there can be no better preventive against taking cold. In hot weather, to walk among the heath till violent perspiration ensues, and then to become stationary for a little time (which will undoubtedly sometimes be the case in grouse shooting) is almost a sure method of taking a violent cold, if linen is worn next the skin. Short boots, that lace close, but which are easy to the legs and feet, are to be recommended; for shoes, when you walk on the mountains, gather the tops of the heath, which will be very apt to rub the skin off your feet. It will be advisable also to rub some tallow on your heels, the bottoms of your feet, and the joints of your toes, before you go out in the morning, which will not only cause you to walk easy, but prevent that soreness otherwise consequent to a hard day's grouse shooting.—It need scarcely be mentioned that the liquor flask is a very necessary appendage; to the bottom of which should be attached a tin cup, which will enable the sportsman to allay his thirst by mixing water with his brandy: rinsing the mouth will perhaps be found occasionally to answer the desired purpose. But on no account drink cold water alone; the fatal consequences of which, when a person is in a violent perspiration, are well known.

I never drink any cold liquor, *when hot*, although mixed with

spirits, without first bathing the temples and the wrist pulses with cold water, holding also cold water in the mouth for a few seconds previous to drinking. It refreshes wonderfully; and, by cooling the blood gradually, prevents fatal accidents, more frequently resulting from drinking incautiously than is generally known.—*De Berenger.*

In bad weather, the birds will generally be found about midway on the hills; and in case of very bad weather, the butts of the mountains are the places they resort to: but in fine weather they will be found near the tops.

Grouse go to water immediately after their morning flight, which is the proper time to begin the day's diversion: from that time till the extreme heat of the day comes on, good sport may be obtained; as also from half past three till sun-set. Should the sportsman, however, be inclined to continue his diversion in the dead time of the day (which is from about eleven till three) let him be careful to hunt all the deep cracks he meets with, as grouse frequently creep into these to shelter themselves from the excessive heat of the sun; at this time also, they may frequently be found in mossy places.

In this diversion, be careful to give your dogs the wind, and also to try the sides of the mountains which are most sheltered; if it blows hard, you will be certain to find the birds where the heath is longest; and when this unfortunately happens to be the case, they generally take long flights, and these too, are for the most part, *down* the wind, which is the very reverse of what most other fowls are known to do.

On finding a brood of grouse, the old cock is generally the first that makes his appearance, and the first to take wing: if he has not been much disturbed, he will run out before the dogs, making a *chucking* noise, and will frequently get up and *challenge*, without seeming to testify any symptoms of fear for himself; but by this he warns the hen and the poults, which immediately begin to run

and separate. The hen generally runs as far as she can from you, in order to draw your attention off the poults; and if the poults are strong enough to shift for themselves, she will sometimes make off altogether, in which case good diversion will generally follow. The main object, however, should be to kill the old cock, which will most likely enable you to pick up the young brood, one after another, as, in the beginning of the season, they lie very close, particularly after hearing the report of a gun, which terrifies them to such a degree, that you may sometimes take them up with your hand from under the dog's nose. When this happens, the ground cannot be beaten too carefully.

Of all shooting, none is so laborious, either for man or dog, as that of *grouse;* the sportsman ought, therefore, to be provided with plenty of dogs, in order to rest them alternately; and one brace, or a brace and a half, at a time will be sufficient.

To insure an abundance of grouse, care should be taken, prior to the pairing season, to destroy a number of the male birds, as at the close of the shooting season, a preponderance of cocks will be uniformly found. It is well known to sportsmen that the cock bird is always the first to take wing; he cautiously avoids the approach of the shooter, and hence the reason why so many male birds are always left. If, therefore, at the commencement of the breeding season, more cocks are left than can find mates, furious battles ensue, much confusion is produced, and the nestling and incubation suffer in consequence.

It is a prevalent opinion, that a very dry breeding season is detrimental to grouse; this, I conceive, to be a notion hastily adopted, and which will not bear the test of investigation. And, whilst this opinion is so inconsiderately taken up, it is as strenuously maintained that the season cannot be too dry for partridges. Now, I should be glad to know the reason, why a wet season should be conducive to the health of young grouse, and yet detrimental to young partridges? They are not ex-

actly the same birds, it is true; but they are, in some measure allied to each other, while there is a striking similitude in their habits. In a dry breeding season, partridges are sure to be abundant; for a very good reason, their eggs are not chilled by the wet, nor do the young birds suffer, for the same reason; and it will take something more, in the shape of argument, than an inconsiderate assertion, or the dictum of ignorance, to convince reasonableness that the case is not precisely the same with grouse. The mountains distinguished by the name of Westhope-fells, Westmorland, are remarkably wet, and for this reason, (according to the prevalent notion,) as the season (1820) had been uncommonly dry, they should have produced an abundance of game, or, at least, much more than other mountains, which were equally remarkable for being dry. This was not the case; for, on the 13th of August, when I ranged Bollyhope-fells, which are very dry, I found the grouse in the proportion of four to one.

As grouse, however, are found only in particular parts of the country, the pursuit of these fine birds is by no means so general as partridge shooting. Grouse are out of the reach of Cockney sportsmen: though many tradesmen resident in large towns, contrive to enjoy, now and then, the pursuit of the partridge, they seldom venture upon a grouse shooting excursion, on account of the distance, perhaps, as well as the expense necessarily attendant upon it. The highlands of Scotland abound in grouse; they are also found on the Welsh mountains, and in Ireland; in the north of England, in Lancashire, Derbyshire, Staffordshire, and other contiguous places, especially among the moors and mountains of Yorkshire, where these birds are found in sufficient numbers to afford excellent diversion. For several weeks prior to the 12th of August, dog-carts may be frequently seen on the road to the north, laden with that sagacious animal which so essentially contributes to the success of the chase; and, as the time approaches, equipages of a smaller scale may be ob-

served in great numbers, all directing their course to the scene of action. About the 10th or 11th, the roads become crowded with sportsmen and their attendants, who travel principally in gigs, in the bottom of which is generally seen a convenient receptacle for several pointers. The more humble pursuers of the chase seize the opportunity afforded to them by numerous stage coaches of reaching the destination in time; and thus by the eve of the 12th, every one is at his post, palpitating with the eager expectation of to-morrow's sport, and uttering the most fervent ejaculations for fine weather.

Grouse when sent to a distance should be packed air tight, and not drawn.—Sealed up in bladders is perhaps the best method.

I am not aware that I can give those who have never visited the moors a better idea of a grouse shooting excursion, than by sketching one of my own visits to the moors:—Myself and my companion reached Bowes, a small town in Yorkshire, on the confines of Durham, about three o'clock in the afternoon of the 12th (this day falling on a Sunday, in 1821, and the shooting not commencing till Monday), and having mounted ponies, provided for the purpose, we left the high road, and, with but a slight knowledge of the country, set out in search of a small village, called *Chapel-in-Weardale*, in Westmoreland. In order to reach the *point d'appui* as soon as possible, by the advice of a rustic, whom we met, we attempted to cross a considerable extent of moorland: for this purpose we followed a path pointed out to us, and traced it for a considerable distance, till, at length, it dwindled into a sort of sheep walk, and shortly afterwards vanished altogether. Still we kept onward in the direction that had been pointed out, till, the lowering appearance of the horizon, threatening unfavourable weather, left scarcely sufficient light to enable us to avoid the bogs which frequently obstructed our progress. It was but an indifferent bridle road at best; and

as we became enveloped in the dusk of the evening, we found ourselves in the midst of boundless moorlands, dotted here and there with lead mines, which we could but just discover by the aid of the murky twilight; not a human being was to be seen on this dreary waste. After wandering about for some time in a state of uncertainty, we discerned through the gloom, at a short distance, two uncouth figures, which appeared to be stalking towards us. They approached, and, like guardian genii, accompanied us to a road (a rough one certainly) by which we ultimately reached our place of destination, at a quarter past eleven o'clock, after a most uncertain and irksome journey. Having made arrangements for the following day, we retired to rest at twelve, and had not been in bed more than an hour before the trampling of horses and whistling of dogs, &c. sufficiently indicated the anxiety of brother sportsmen to be on the mountains at the peep of morn, to see the first rising and flight of a grouse. The mountains in this neighbourhood, which principally belong to the Bishop of Durham, rise, for the most part, very abruptly, and to great heights; they are, nevertheless, much inclined to bog, and walking over them is attended with no ordinary fatigue. We rose a little before two o'clock, and after making a hasty, but not a very hearty, breakfast, we mounted our ponies, and, accompanied by our guides, directed our steps up a long, winding, steep ascent, which led to the wished-for spot. The weather was hazy, and the gray of the morn enabled us to see the dense fog, which hung, like rolling smoke, in volumes, round the tops of the mountains. No one but a true sportsman can picture to the mind that eager, that impatient, anxiety which is felt at a moment like this; particularly, as from report, we had reason to believe that abundance of game lay before us. But this anxious feeling is not confined to the sportsman:—his dog partakes it in a greater degree, if possible, than himself. The motion of his tail, his crouching curves, his impatient whine, the blandishment

of his expressive eye, all confess the delightful anticipations which animate his eager hopes.

Grouse shooting may be placed at the head of the list of what the French would significantly enough call *la chasse au fusil.* In fine weather nothing can equal grouse shooting: in wet weather it is attended with much vexation.

Our diversion in the early part of the morning did not equal our expectations, for numerous parties were scattered over the mountains, and the ground on which we commenced operations had been already ranged. Several ardent sportsmen had ascended the hills at midnight, ranging the summits of the mountains in order to drive the birds into the valleys, and thus be enabled, the moment the dawn of day admitted sufficient gray light, to commence their amusement at a distance from the fog, which almost uniformly caps the summits of lofty hills at this time. However, it was not broad day-light by any means, when a solitary fine old cock cheered our spirits by his chattering, and fell to rise no more. In every direction the heath was enlivened by the ranging of dogs, an occasional whistle, and the almost continual firing of guns.

We had been led to believe that the breeding season having been tolerably fine, grouse would be found in abundance; and this was strictly true; yet for several hours we met with nothing but single birds. I never recollect traversing grouse mountains where the walking was more unpleasant, more irksome, or more fatiguing. The birds were strong on the wing and wild, which consequently rendered the pursuit much more laborious; in fact, the fatigue was excessive, and at eleven o'clock, we sat down to dine beneath enormous masses of awfully projecting rock; and with our heads reclined against one of these *solid,* not *downy,* pillows, we enjoyed a very comfortable nap. And here young sportsmen should be cautioned against lying at full length, or sleeping on the ground, unless it be uncommonly dry, as well as

against drinking cold water when heated to excess; it being better to alleviate thirst with a little diluted spirit, or if the flask should be prematurely exhausted, by washing or rinsing the mouth at the first spring or rivulet. The most fatal consequences have often resulted from a disregard of these precautions. Like giants refreshed, we sprung from our slumbers, and pursued our sport till we could no longer distinguish the flight of a bird; better success than we expected to meet stimulated exertion and left us no time to think of fatigue. As the evening closed in, however, we sought our ponies in the valley below, and although they were not more than several hundred yards off, we could scarcely reach the spot from excessive fatigue. Arrived at our homely inn, we made a hearty supper, took a cheerful glass, talked over the day's sport, and threw ourselves into the arms of Mr. Morpheus, who strewed his poppies over us without much solicitation. On demanding our account in the morning from "mine host," we found that his name should have been "*Woodcock, by the length of his bill,*" his charges very much resembling those of *Peacock*, at the London Tavern, although the accommodations were of a very different description.

The Bishop of Durham has a great extent of moor-land in this part of the country, and is very liberal in giving permission to sportsmen to range his mountains; but, at the same time, his hilly domain is overrun by the most audacious and determined set of poachers to be found in any part of the kingdom; who, when pursued, seek protection in the bowels of the very mountains on which they have committed their depredations. The miners are, almost to a man, poachers; and so desperate are they, that the bishop's gamekeeper confessed to me that he was compelled to wink at much of their depredation. The mode adopted by the lead-miners of procuring grouse is with the dog and fowling-piece. The poachers frequently sally forth in such bodies as to bid defiance to the united strength of the *watchers*

in any particular district; and appear to pursue the diversion, not for the sake of profit alone, but with all the eagerness and zest of true sportsmen. Moreover, they generally commence *their* season a week prior to the 12th of August, and send horse loads of grouse to different large towns, to watering places, and particularly to Harrowgate; at which last place, the grouse are frequently sold for as much as ten shillings a brace. On the 12th of August, and for several days following, the miners abandon poaching, in some measure, and act as guides to the sportsmen; one of them served me in this capacity, and from him I learned the particulars just mentioned; he was recommended for the purpose by the bishop's gamekeeper, and proved himself an excellent attendant.

The Earl of Darlington's moors are contiguous to the Bishop of Durham's. The earl is much more strict than the bishop in preserving game; but, in spite of all his exertions, the miners frequently sally forth and commit extensive depredations with impunity. I am of opinion, that men of great landed property adopt in general very erroneous modes for the purpose of preserving their game; nor have I the least doubt that I could point out and carry into practice a much more *effective*, as well as a much more *pleasant*, method of rendering nugatory the efforts of poachers, and at a much less expense than is generally incurred; though I am free at the same time to confess, that my plan would apply to enclosures, rather than grouse mountains; and that I should certainly feel no great inclination to be brought in contact with the miners in the neighbourhood of Chapel-in-Weardale.

Spittle, near Bowes, in Yorkshire, may be regarded as a sort of general rendezvous for those sportsmen who either do not choose to ask, or are unable to obtain, permission to range more particular domains. At this place there is a great extent of moor, which is claimed by a number of proprietors, who possess

no paramount right, and therefore are unable to prevent a general unsolicited range, which uniformly takes place. At the same time the mountains are much better travelling than they will be found in many other places; and, being surrounded by excellent preserves, scarcely ever fail to abound in game. Spittle is also a general resort for dog dealers and *dog stealers;* and the sportsman who visits this neighbourhood unprovided with this very essential assistant in the chase, may be accommodated exactly according to his means, or the price he is willing to give. But, though this may be a general practice, it is one "more honoured in the breach than the observance;" and that sportsman who depends upon such suspicious means, will hardly fail to experience disappointment.

Ten brace of grouse may be bagged on the 12th of August, on the Bowes moors, on which, at this period, a general flashing is kept up from one extremity to the other. At some distance further Lord Stanley occupied some excellent moors, at a place called Mucar (I am not certain as to the spelling of the name,) and in the early part of the season generally averaged twenty brace per day. His Lordship, however, was much annoyed by poachers; and, as a curious instance of this sort occurred some years ago, I will take the liberty of relating it:—his Lordship's watchers had frequently observed a stranger, accompanied by one dog only, who, in defiance of all authority, took the diversion of grouse shooting on his Lordship's preserve. The watchers had repeatedly approached this unasked and unwelcome visitor; but when they came within a hundred yards of him, he uniformly altered his position, or moved on, and moved so quickly too, that he appeared with ease to distance his pursuers; he would also frequeutly stop, and have the audacity to kill game in their sight; and then darted forward again with the swiftness of the roe. After many attempts had proved ineffectual, the matter was reported to his Lordship, who desired that he might

be informed of the next time the trespasser made his appearance. A very short period elapsed before it was reported to his Lordship that the *man in the dark-green jacket* (the colour he always wore) had again offered himself to observation. Lord Stanley was soon brought in sight of the depredator, and at the moment when he had approached within about two hundred yards of the poacher (whose dog at the moment was pointing), he saw him deliberately bring down a bird. This was too much to be borne; his Lordship darted towards the spot: the man in the dark-green jacket, however, *pocketted his bird*, and, in a few seconds, fairly distanced his pursuer, and had no sooner gained a sufficient distance, than he again commenced ranging for game. His Lordship being a good foot-man, determined to make up in a persevering chase what he had lost at starting, and therefore continued the pursuit. Again he approached the poacher, but only to witness the *fall of another bird;* and in this manner the contest lasted for more than an hour and a half, when Lord Stanley acknowledged the superior dexterity of the *man in the dark-green jacket*, by abandoning all further efforts to come to close quarters with him.

During the whole of the season grouse are regularly conveyed by the stage-coaches to all the large towns, and particularly to Manchester and Liverpool. For this purpose there are certain days appointed, when quantities of these birds are brought to particular houses by the road side, at which the coachmen and guards call; and this unlawful traffic is continued with as much regularity, if not with as much publicity, as the authorized dealings in any other species of marketable commodity. Abundance of game is thus conveyed from Yorkshire and the northern parts of England to places situated at a distance, or more to the southward; and when the weather becomes cold, and the game will keep, immense quantities are brought from Scotland. The quantity of grouse killed in England will not bear a comparison

with the numbers annually destroyed in Scotland, where this game *literally abounds*.

Those who wish to enjoy grouse-shooting in perfection should visit the Highlands of Scotland, in many parts of which both black and red grouse are wonderfully plentiful; and, as far as I am able to judge, from actual observation, the grouse which I met with in these hilly regions appeared to be larger, and altogether finer, than any of the same kind of birds which I had ever seen in England. But they are not to be met with in all parts of the Highlands, as might at first be hastily supposed; but the sportsman, nevertheless, would rarely have to travel far without meeting with them. In Caithness, the northernmost county, the black cock is not to be found; red grouse, however, are to be met with in abundance; so much so, indeed, that I killed sixteen brace on the 13th of August, a few years ago, in less than three hours. Ptarmigan and the Alpine hare are found on the grey tops of the mountains. Coming lower into Sutherlandshire, plenty of red grouse are to be found, and black game also. In Ross-shire, they are more abundant, and so continue all the way down to the Grampian Hills; and the quantity sometimes killed, to use the language of Dominie Sampson, is "prodigious." Wild deer and roebuck are still to be seen in some parts. The grouse-mountains are, however, generally speaking, strictly preserved; and therefore those who visit these parts should provide themselves with a letter of introduction to some chieftain, or other person possessing power and influence, when they may depend on having abundance of diversion. Certain districts are annually advertised to be let for the shooting season; and thus English gentlemen of wealth are enabled to accommodate themselves with shooting far superior to what can be obtained in their own country; but the means of conveyance, if it be intended to send game to England, are somewhat difficult to be obtained.

In the mountainous parts of the Lowlands, great quantities of black and red grouse are to be found, particularly in Nithsdale and its neighbourhood, principally the property of the Duke of Buccleugh.

I shall conclude this sketch with some observations as to the dog best calculated for the pursuit of grouse. Various opinions exist on this subject; some preferring the setter, and others the pointer. Although excellent animals of both kinds are to be met with, there are some leading characteristics which eminently distinguish the long and the short-haired dog. The setter is a hardy, impetuous, unruly animal, which, if taken into the field while very young, will frequently set intuitively; but no sooner does he acquire strength, than he shows a turbulent spirit, and can only be kept sufficiently obedient by constant exercise. On account of their long coat, setters are more affected by heat, and consequently sooner become thirsty, than their sleek thin-coated rival; and, in very dry weather, suffer from want of water on the grouse mountains. The well-bred pointer, on the contrary, is a docile creature, very easily reduced to obedience, and, when once well trained, requires neither very hard work, nor severe correction, to keep him submissive and tractable. The pointer, however, is more liable to become foot-sore, either from the wiry lacerations of the heath, or from running upon hard or stony ground; consequently, in a sharp frost, he is unable to hunt: the olfactory organs of the pointer are unquestionably superior to, and more acute than, those of the setter; and will generally be found pre-eminently conspicuous in a harsh dry wind, blowing from north or easterly directions, at which time the scent will be found very difficult of recognition.*

* *The following appeared in the Annals of Sporting, volume 2, page 298, addressed to the Editor:—*

"Sir,—You must know I am but a young sportsman at present—a mere novice in the science of shooting; till the present season I never

The best time for partridge shooting is from two hours after sun-rise until eleven o'clock; and from half-past three o'clock

saw a grouse on the wing: but, being ardently attached to the sport, I determined on visiting the moors of Yorkshire, though my residence was at the distance of almost two hundred miles. For a month before the 12th of August I could scarcely think of any thing but the moors, of which, however, I had formed a very erroneous idea. I thought they must bear some resemblance to Charnwood Forest, in Leicestershire, and was never more surprised than when, on reaching Yorkshire, I beheld the very different aspect presented by the abrupt and mountainous moorlands to the plains and gentle undulations of the forest just mentioned. If I saw no "cloud-capp'd towers," I beheld very plainly cloud-capp'd hills: for the first time in my life I saw the summits of the mountains enveloped by the clouds, beneath which the dark and sombre hue of the lower parts of these heathy hills conveyed, at the distance of a mile, a very fallacious idea of their real form and appearance.

"Your correspondent T. in a late number, speaks much of the anxiety felt by sportsmen on the approach of the 12th of August, which, I assure you, was experienced by me in its fullest force. Like him, I rose at midnight, between the 11th and 12th, and ascended the mountains before I could discern the flight of a bird: up to this moment I had never seen a grouse on the wing, (as I have above observed,) and I now heard them chatter for the first time in my life. It was the grey of the morn: and I could hear these birds in various directions, and observed several variations in their cry or call, one of which was an excellent imitation of the words "*Come back! come back! come back!*" These matters may appear trifling to an old grouse-shooter, but they were quite new to me, and forced themselves on my attention; my situation was altogether novel, nor do I think any thing can be more interesting to a young sportsman who visits the moors for the first time, than listening to the calling of the grouse a little before day-light.

"Almost up to the knees in ling or heath, I commenced my operations. My dogs, though excellent, were strangers to grouse-shooting as well as myself, nor did they at first seem to relish the diversion; they run in to the first pack or brood, and raised it out of distance; six dark-coloured birds rose, and, skimming over the top of the heath, were quickly out of my sight; indeed, in colour they appeared so nearly to

until it is dark. When the weather is very dry, especially at the beginning of the season, as soon as the sun becomes very

approximate the ling over which they flew, that they proved a puzzling mark for me when they were completely within gun-shot. More birds were raised in a similar manner; and I soon discovered that grouse must be approached with much more caution than partridges; I also found that they rose in a different manner, and that the sport was not at all similar to that of the midland counties.

"I was extremely anxious (as you may suppose, Mr. Editor) to kill a bird: I fired six shots, and had the mortification to see the birds uniformly fly away; indeed, when I pulled the trigger, I was always in doubt, for I could not discern the object half so clearly as if a partridge had been before me. I met, at length, with several grouse not half grown, and was fortunate enough to break the wing of one of these *squeakers*. I seized the prize with eagerness; but it was very young, very small, unsatisfactory in every point of view, and only served to increase my vexation. I began to lament that I had visited the moors; that I had made so long a journey to seek a diversion which now appeared to me so inferior to what might be obtained at home; and, to add to my chagrin, while making these irksome reflections, I happened to get *ingulfed in a bog* nearly up to my middle! I could not help venting my grief aloud: I cursed my own folly for having taken a journey of *two hundred miles*, which I now conceived could not fail to end in the bitterest disappointment. With the assistance of my attendant and guide, I got tolerably well cleared from the wet and filth which adhered to my clothes when I emerged from the bog, and I hesitated for some minutes whether or not to quit the mountains, and immediately return home: the idea that my friends would have the *laugh against me* alone determined me to continue for some time longer upon these dreary and uncultivated wilds.

"An hour or two elapsed, during which I fired repeatedly, but was not fortunate enough to bring down a bird. Arrived at a spring of fine clear water, I sat down in despair, determined, after taking a little refreshment, to leave the moors and return home. I had been walking over broken and boggy ground for some hours, sometimes nearly up to my knees in ling, sometimes up to the ancles in dirt and water, had crossed a number of deep and yawning ravines, been once nearly

powerful, the scent is dissipated, and the dog's abilities are put to the test to no purpose. In the middle of the day, partridges cease to feed or run, and place themselves by the side of some sunny bank in order to bask.

In general they have their separate feeding and sleeping places; but it frequently happens that they remain all day or all night where they fed the preceding evening or morning; yet it much oftner happens that they change their ground. At day-break, they run and *call*, and, when collected, generally take their flight to the stubbles, which, if high and thick enough to afford them shelter, will most likely induce them to remain there

smothered in a bog, had ascended a number of steep hills, and was, in fact, become completely fatigued, as well as severely mortified by a succession of unlooked-for disappointments. However, I had scarcely seated myself, when the *chattering of a grouse* attracted my attention; I observed the bird approach; I rose—it was crossing me at the distance of thirty or forty yards—I fired—it fell! I ran to the spot with all the eagerness of ardent expectation. I seized the prize with rapture—viewed it with delight. I instantly felt a full flow of spirits—my fatigue had vanished, and I determined on continuing my range, regardless of the fine clear spring, and my late intended refreshment.

"The bird I killed was a fine old cock; and, in the course of something less than an hour, I succeeded in killing three other young, but fine birds. My spirits were now raised to the highest pitch of exultation, and I felt confident that before night I should bag at least *ten brace*. I did not, however, realize these sanguine expectations; but, with more than half the number, I quitted the mountains, at seven o'clock, delighted, after all, with my day's diversion.

"On the *second day* I commenced my operations with renewed vigour, and was more fortunate than on the first. I had become, in some degree, accustomed to the rising and flight of the game—I could distinguish it better; I became, also, in some measure, familiar with the mode of traversing the mountains; and, after spending a few more days in this way, I returned home with this conviction, that *grouse shooting* is very laborious, but that it affords, at the same time, *the finest diversion in the world!*"

till disturbed: however, in dry weather in particular, they are frequently to be found at this time among potatoes or turnips, afterwards they bask. After feeding in the evening they again *call*, and fly to the place where they intend to remain for the night. When they are *calling*, they seldom *lie* well, or, in other words, will not permit the sportsman to approach within gun-shot.

> My pointers *stand*;
> How beautiful they look! with outstretched tails,
> With heads immoveable, and eyes fast fixed,
> One fore leg raised and bent—the other firm,
> Advancing forward presses on the ground.
>
> FOWLING, *a Poem.*

Although I have been a sportsman for more than twenty years, I still retain much of that anxious feeling of anticipation in which young shooters indulge themselves on the eve of the first of September, and which arrives at its greatest height when the gray dawn of the next day appears, but which is seldom completely realized by the events which succeed. Young and indifferent shooters, on this occasion, calculate on performing wonders; and in order to qualify themselves for the sport, they generally, for several preceding weeks, practise at swallows,—"a custom more honoured in the breach than the observance;" for a person may become a most expert swallow shooter, and yet not bring down a partridge once in a dozen shots; and nothing can be more ill advised, or even cruel, than the worse than useless slaughter of these birds, which daily destroy millions of noxious insects. The flight of swallows is quick and capricious, and yet their destruction is easily attainable by the fowling piece. The sportsman takes his station with calmness and even *nonchalance*; and selecting his object from the number that are fluttering about him, deliberately waits for the precise moment, when his victim may be destroyed with almost unerring certainty. With *game* the affair is quite different; the object is larger,

much larger, but the exact spot whence it will spring is not ascertainable, while the sudden rush and noisy confusion accompanying the rise, so astonish the tyro, or the bungler, that the fowling piece is discharged not only too soon, but generally at random. Hence it will easily be perceived that little or no analogy can exist between swallow shooting and partridge shooting. The secret of shooting may be easily explained, as it is comprized merely in *coolness* and *deliberation;* these, however, are not so easily attained as the superficial observer might be led to suppose. A friend of mine, who has followed this diversion for forty years still continues a very indifferent shot: the rise of a covey never fails to dissipate his previous mental resolves, and he has, nineteen times out of twenty, the mortification of seeing the game go away untouched; but it must be observed, that, to say nothing of his firing too soon, he has contracted a habit, which must for ever preclude any thing like certainty in shooting:—no sooner does his finger touch the trigger, than he shuts *both* his eyes! And yet, though conscious of this preposterous defect, and aware that if a bird fall from his gun, it is merely the effect of accident, should he be shooting in company, and happen to fire at the same time as his companion, he will not fail to claim the merit of having *killed the bird:* indeed, to judge from his conversation over the bottle, a stranger would suppose, that, as a shot, he was equal to Sir John Shelley. I have seldom met with a bad shot who was not extremely anxious to be thought otherwise; and who would not, in his cups, relate, with much self satisfaction and infinite glee, a hundred shooting exploits, which never had existence but in his own prolific brain.

The moment the light of the morning will enable the young shooter to discern the flight of a partridge, he is impatient to rush to the scene of action, and is all uneasy eagerness, while his more experienced companion *finishes his breakfast.* The resort of a covey or two is previously known; the sportsmen,

therefore, direct their steps to an appointed spot, where the dogs come quickly to a point. The shooters advance—the tyro with trepid eagerness and a palpitating heart;—his veteran companion with philosophic coolness. They arrive at the desired spot, abreast of the foremost dog; and, for a few seconds, in almost breathless anxiety, nearly choked with expectation, the tyro expects the game to spring:—the covey rises, with screams and confusion, and, at the same instant, the tyro's gun is ineffectually discharged—while his companion, deliberately selecting his object, with one eye shut, and the other steadily directed down the barrel, the bird no sooner appears at the end, than the trigger is drawn, and the partridge falls. This scene is well described by the author of "FOWLING":—

Full of th' expected sport my heart beats high,
And with impatient step I haste to reach
The stubbles, where the scattered ears afford
A sweet repast to the yet heedless game.
How my brave dogs o'er the broad furrows bound,
Quart'ring their ground exactly. Ah! that point
Answers my eager hopes, and fills my breast
With joy unspeakable. How close they lie!
Whilst to the spot with steady pace I tend:
Now from the ground with noisy wing they burst,
And dart away. My victim singled out,
In his aerial course falls short, nor skims
Th' adjoining hedge o'er which the rest unhurt
Have passed.

I have occasionally met with tolerable shots who have asserted that they do not shut one eye when drawing the trigger, but uniformly direct both eyes to the object; others, again, will be found who declare that they look directly at the bird, regardless of running their eye down the gun-barrel. With a sportsman of this latter description, I happened to be shooting for several days in the month of August: he shot well, and asserted that he merely kept his eye on the bird, without directing a Cyclop-

peep down the barrel of the fowling-piece. Of the correctness of this assertion I could not avoid expressing my doubts, as he shot much better than I conceived it possible for any one to do who followed the random mode just mentioned. I, therefore, determined to ascertain the point from personal observation; and with this view watched his motions for several successive shots: he was a cool, deliberate shooter; but I had the satisfaction of observing that he had no sooner selected his object, than he bent his cheek to the stock, and maintained that usual position till he had pulled the trigger. This I remarked to him; and he ultimately confessed that such was the real state of the case, though he was unconscious of the circumstance till it was so clearly pointed out to him. I am of opinion that it is scarcely possible to become an expert or dead shot, without closing one eye, and taking a deliberate aim down the gun-barrel with the other.

Pheasant shooting requires the sportsman to be properly equipped for a cover; and, in my opinion, strong woollen cloth gaiters are preferable to leather, as, in wet weather, the latter are very uncomfortable, and the former are a sufficient guard against the briars, &c.

If the night before you shoot be wet, the droppings of the trees will compel the pheasants to quit the woods; and in this case the hedge-rows and furze covers should be tried very carefully, and good sport will most likely be obtained. This bird is much attached to almost all sorts of covers, especially to the sides of pits where alder trees are growing.

The small springing spaniel is frequently used in pheasant shooting, and may answer tolerably well in the beginning of the season, or where the birds have not been much disturbed.

In hedge-rows, pheasants lie remarkably well; and in this case a pointer or a setter will of course make a very steady point, and you must perhaps shake the bush before the bird will spring; but

it is different in covers, where these birds frequently run a considerable distance, and it becomes necessary to encourage your dog; though one a little used to this sport will need no encouragement.

Naturalists observe, "Of all game birds, pheasants are shot most easily, as they always make a whirring noise when they rise, by which they alarm the gunner, and, being a large mark, and flying very slow, there is scarcely any missing them." The sportsman cannot but smile at this last sentence. A pheasant is shot easily enough by an old and an experienced sportsman; but I much doubt whether the tyro stands not a better chance of success when a *twiddling* snipe rises before him. That the pheasant is a "*large mark*," every one will readily allow; that its flight is by no means rapid is equally incontestible; but the tremendous bustle and whirring noise, which they make in rising, so agitates the inexperienced sportsman, that he not only fires too soon, but, generally without taking aim, and has to endure the mortification of seeing the bird fly away unhurt. A cock pheasant, when *pushed* from a bush or thicket, generally rises perpendicularly, till he has cleared every obstacle, before he goes off horizontally. The moment for shooting is when he assumes the horizontal direction. If a novice in the art fire at the bird while he is rising, he will, nineteen times out of twenty, throw the shot below the the bird. With an experienced shot, the mode of rising is of little consequence.

> "Ah! what avail his glossy, varying dies,
> His purpled crest, and scarlet-circled eyes,
> The vivid green his shining plumes unfold,
> His painted wings, and breast that flames with gold?"

The hen pheasant, when pushed, seldom rises so high as the cock, or yet takes so long a flight. A cock pheasant will sometimes fly to a considerable distance; and whenever this happens, as the act of flying is very laborious to this heavy bird, he is not

able to rise again for some time. If the sportsman can mark down a pheasant, after one of these long flights, and hasten to the spot, he will find the bird to rise with great difficulty, and fly to a very short distance, or, perhaps, he will be unable to rise at all. Indeed, pheasants seem conscious of their incapacity to maintain a long flight, and, therefore, prefer running, wherever practicable, in preference to taking wing; however, after a long flight they are difficult to find, as, on these occasions, they generally drop into a bush or thicket, and remain for a considerable time (if undisturbed) without moving.

The sight of the woodcock is very indifferent in the day time, but he sees better in the dusk of the evening and by moonlight; and it may also be remarked, that woodcocks will lie much better the day following a moonlight night, than when it has been preceded by a very dark one: the reason is obvious —the bird has been enabled by the light of the moon to make a plentiful repast, and the next day is lazy and unwilling to fly; whereas, when the darkness of the night has rendered it impossible for him to satisfy the calls of hunger, he is constantly uneasy, and on the alert in search of food, which he never attempts to seek in the day time, but when necessity compels him. Shooting woodcocks is a very pleasant amusement in woods which are not too thick; and, if they are cut through in several places, it renders it more easy to shoot this bird in his passage, and also to mark him with greater certainty; and woodcocks will generally be found near the openings or roads through the woods, if there be any. In this diversion a good marker is of essential service; for, with his assistance, it will be difficult for a woodcock to escape; as he will generally suffer himself to be shot at three or four times before he takes a long flight.

Springers are frequently used for this diversion—see the head *Springer;* and give notice when the cock rises by barking: these animals, when well trained, may answer very well; and, in

fact, they are better adapted for this amusement than for pheasant shooting.

The woodcock is a clumsy walker, and rises heavily from the ground, which I believe is the case with most birds that have long wings and short legs. This bird, as well as the snipe, it is said, rises from its bill *. When a woodcock is found in an

* It frequently happens that an opinion once generally received, however ridiculous its origin or absurd in itself, if it be not of a nature to excite inquiry, becomes a sort of *common law*, from the circumstance of its being handed from one generation to another with implicit credit, untainted by the most remote suspicion. Thus, in those parts of the country where I have resided, the idea that the snipe rose from its bill, or that in rising from the ground to fly, this bird pushed itself up by its long bill, so as to be able to use its wings, was the uniform and mistaken belief. Indeed, I should never have suspected this opinion but for an accidental circumstance, which occurred a few years since, when in shooting at a snipe, I wounded it slightly, merely fracturing the extreme end of one of its wings: the bird came to the ground, but made many efforts to rise again, and absolutely contrived to raise itself a yard or more repeatedly. By the time I had re-loaded my gun, the snipe had got to a considerable distance, principally, however, by running. As I approached, for the purpose of taking it up, its efforts were again repeated, during which I distinctly observed that it did not rise from its bill, but threw itself into the air in the same manner as a crow or any other bird, by springing from its feet: but, in justice I ought to remark, that the circumstance was first noticed by a much younger sportsman than myself, with whom I happened to be in company, and but for him, in all probability, the bird would have been pocketed, *sans ceremonie*, and the matter (trifling enough certainly) still have remained enveloped in an ignorance equal to the mistaken fancy which originally invented it. However, while I stood watching the bird's attempts to escape, I noticed another peculiarity in it:—exhausted, as it soon became by its impotent efforts to fly, it then tried to get away by running; and, when we approached very near, it repeatedly spread out its little tail like a fan, and erected it after the manner of a turkey cock; at the same time, I was fully convinced, from the length

open field, in a hedge row, in the pass of a wood, or an unfrequented lane, he generally skims the ground slowly, and is very easily shot; in fact, thus circumstanced, he is the easiest of all shots; but it is occasionally otherwise, particularly when he is flushed in a tall wood, where he is obliged to clear the tops of trees before he can take a horizontal direction.

There are three different sizes of snipes, the largest of which, however, is much smaller than the woodcock.—The common snipe weighs about four ounces; the jack snipe is not much larger than a lark; the great or solitary snipe weighs about nine ounces, but is seldom met with.

The snipe is generally regarded as a difficult shot; and it must be allowed that it requires practice to surmount this difficulty, which arises from the zigzag manner in which the bird flies immediately after getting up. The best method to pursue in this diversion, is to walk down the wind, as snipes generally fly against it; and if a snipe rises before the sportsman, it will not fly far before it turns, and describes a sort of semicircle, which will afford more time to take aim, by thus remaining longer within gun-shot. If, however, the bird should fly straight

of its legs when it stood erect, that it was not at all necessary for the snipe to put its bill to the ground in order to rise, had I not witnessed its repeated attempts to fly.

When seen on the ground, the snipe is a very pretty bird; and though its bill, compared with its size, seems out of all proportion, yet, from the manner in which it carries its head, it presents nothing of that grotesque appearance which the enormous length of its bill would induce one to expect.

In the course of all my shooting excursions, I never recollect observing a snipe on the ground prior to its rising, though I have shot some hundreds. I am inclined to think they are scarcely ever seen till on the wing; and this circumstance, aided by the coincidence of an enormous length of bill, has, in all probability, given rise to the supposition before mentioned.

forward, it will be highly proper to let it get some little distance, as its flight will become much steadier. The slightest wound is sufficient to bring these birds to the ground.

An old pointer is the best for snipe-shooting. To accustom a young dog to snipes slacks his mettle, and renders him of little use for partridge or grouse, owing to getting a number of points with little exertion. However, when these birds are plentiful, a dog is unnecessary, as walking them up will answer equally well.

In closing this chapter on shooting, I will introduce some judicious remarks upon the subject generally, from Daniel's Rural Sports:—

"In the reign of Charles I. no person shot flying: what is now termed poaching was the gentleman's recreation; and so late as within eighty years, an individual who exercised the art of shooting birds on the wing was considered as performing something extraordinary, and many persons requested to attend his excursions, that they might be eye-witnesses of it. Since that period the practice has been more common, and is at present almost universal; so that lads of sixteen bring down their birds with all due accuracy. To prescribe any extensive rules for the attainment of this art may now be deemed superfluous, and therefore they will be reduced into a very narrow compass.

"In shooting, it is to be ever remembered, that the hand is to obey the eye, and not the eye be subservient to the hand. Both eyes should be open,* and the object fired at the instant

* This I regard as a mistaken notion.—I have already noticed the subject. However, let any person point a gun to a fixed object; by shutting one eye, and directing the other down the barrel, he will easily perceive when the level is true; by directing both eyes down the barrel, he will not only perceive a degree of confusion, as it were, but the aim will be with more difficulty, as well as more uncertainty, directed to the

the muzzle of the gun is brought up, and fairly bears upon it; the sight becomes weakened by a protracted look along the barrel at a bird, and it is for this reason that birds which spring at the marksman's feet, and fly off horizontally, are frequently missed; his keeping the aim upon them so long fatigues the eye, and the finger does not obey the eye so readily as when employed at a first glance. It is not here meant that a bird is to be blown to atoms as soon as it tops the stubble, but that a marksman is first to make himself a thorough judge of distance: with that knowledge, in open shooting, he will never put the gun to his shoulder until the bird has flown a proper length, and then fire the instant the sight of it is caught.

"To kill birds flying across either to the right or left, allowance must be made by the shooter both for the distance he is from them, the strength of the bird, and also the velocity of the object itself. The motion of a partridge, for instance, in November, will be greatly accelerated to what it was two months before. Practice alone can teach these minutiæ, which, if fixed at any given space, or attempted to be uniformly regulated upon paper, might lead the marksman erroneously in the field.

"It may, however, be mentioned, that in a cross shot to the right the difficulty is very much increased if the right leg is first when the bird rises; the gun cannot then be brought but a very trifle beyond a straight line to the right, and frequently gentlemen stand with their feet thirty inches apart when in the act of firing—a position that effectually prevents their bringing their gun to bear upon a crossing object. When dogs point, or when

object. Nevertheless, I am willing to admit that there are those who shoot remarkably well, who keep both eyes open. Yet a rifleman or sharp-shooter always closes one eye. If, therefore, the latter mode is preferable with a ball, why not in shooting at game with shot?

game has been marked and expected to spring, the walk should be with short and easy steps; the body can then be easily turned upon the legs, as if on a pivot, and the bird commanded even if it should fly quite round the sportsman.

"The science of aiming accurately will be of little service, except the gun is held steady from all starting or flinching in the action of firing; it is to small purpose to traverse the gun with the celerity of a bird flying rapidly in a transverse direction, if the person suspends that motion when he touches the trigger to pull it. In this interlapse, between the beginning of the pull and the appulse of the shot to five-and-thirty or forty yards distance, (be the pull and stroke of the cock as short, and the fire as quick, as possible,) any bird of game will, in a serene day, gain progressively in its flight above two yards, and with a rough wind considerably more. Quickness of sight and steady aiming will never constitute a marksman, unless the motion of the gun corresponds with them, and receives no check whilst in the act of drawing the trigger.

"Should different guns be employed, the shooter should have all the locks made, if possible, to require exactly the same pull to bring them to action; there is nothing deceives or disconcerts him more, than shooting one day with a stiff, and the next with an easy-going lock: the transition from that which goes off with a slight, to that where a hard touch is necessary, will often cause the most expert to miss his bird.

"Always hold the gun with the left hand close to the guard (and not forward upon the barrel to strongly grasp it near the entrance of the ramrod, notwithstanding it has been so strenuously recommended): all the requisite steadiness in taking aim, and even of motion, in traversing the flight of a bird, can be obtained by thus holding the heaviest pieces; and, in case of a barrel bursting, the certainty of having a hand or arm shattered by grasping the barrel, is reduced to a chance of escaping the

effects of such an accident, by placing the hand close to the guard beneath it.*

" With double guns a danger arises from the shooter who fires but one barrel and kills his bird, forgetting to uncock the other previous to his reloading that which has been discharged: to obviate this, let him invariably uncock† the second barrel before he sets the butt of the gun on the ground; a sense of self-preservation will soon render this habitual; and a man who is so absent or so eager as to disregard this practice, had better confine himself to carrying a cane instead of a gun.

" After discharging one barrel, be careful to secure with the ramrod the wadding of the other, which from the recoil usually becomes loose: this is not only needful to prevent the shot from falling out, but is an act of safety, lest there should be a space between the shot and the wadding, that will endanger the barrel: it likewise prevents mistakes in loading; and no objection can be made to it, but the accidental fall of a shot into the loaded, whilst pouring them into the fired, barrel, and which may occasion some trouble in withdrawing the ramrod: in such a case, turn the muzzle into the hand, and keep the ramrod home upon the charge, and the stray shot will be easily extricated.

* In September, 1806, Mr. Banister lost the top of three fingers, and the thumb and other parts of the hand were much torn, by the bursting of his gun. He had unfortunately placed his hand forward upon the barrel: it is hoped the misfortune of this gentleman may operate forcibly against so dangerous a practice; for with the hand in that position, should any barrel burst, it is next to a miracle but the party is dreadfully wounded; whereas, by the hand being kept close to the guard, there have been numberless cases where barrels have flown to pieces, without injury to the persons who held them.

† One barrel only should be cocked at a time; after the first barrel has been fired, the gun should be taken from the shoulder and the other cocked, should a second shot present itself; which would obviate the danger above mentioned.

" When uncocking a gun, never remove the thumb from the cock until after having let it pass down beyond the half bent, and gently raising it again, the sound of the sear is heard catching the tumbler.

" Carrying the gun in a safe position, and well securing the lock, are the first articles a young sportsman should learn, and never cease to regard : the result of neglecting other observances is, generally, no more than missing the object; but carelessness in the handling or position of the gun, are too frequently attended with the most melancholy catastrophes : however probabilities may be calculated from, a proper attention to the muzzle prevents the possibility of mischief from one source. When a keeper of the Earl of Chesterfield's was preparing for the field in January, 1789, and stooping to buckle on his spur, as he sat with his gun resting on his knee, and the muzzle close to his cheek, it seemed improbable that a part of the lock should break at that particular point of time; but his instantaneous death was the terrible effect of his not having guarded against what was possible. The muzzle of the gun pointing obliquely upwards between the left elbow and left cheek, if the piece fires ever so often by accident, can never do harm; and from this position it may be presented with more ease, expedition, and correctness, than from any other.

" Beware of the muzzle of the gun being kept hanging downwards; when so carried, the shot is apt to force its way from the powder, especially in clean barrels; if it happen that a space of sixteen or eighteen inches is thus obtained, and the gun fired with its point below the horizon, it is ten to one but the barrel bursts. There are other perilous consequences besides those that generally accompany the diruption of a barrel, for the men, horses and dogs, are in perpetual danger of being shot, when a gun is carried in the before-mentioned pendent manner.

" In shooting with a stranger who keeps his gun cocked, and the muzzle usually pointed to the left, plead for the right hand

station, and that you cannot hit a bird flying to the left; with a gamekeeper, take the right hand without ceremony. In getting over a fence, constantly endeavour to go last, notwithstanding the usual assurance of 'My dear Sir, I am always remarkably careful:' and if a person beats bushes with a cocked gun, get out of his company as a shooter, with all possible expedition.

"Recollect, both in the house* and in the field, always to consider a gun as loaded, and never suffer it to be pointed for a moment towards any human being.

* At Dr. Bennet's, vicar of Chapel-en-le-Frith, a person in 1803 left his gun loaded. A servant girl, unconscious of its being charged, presented it in a sportive manner at another girl, and instantly shot her dead. The unintentional author of this accident was so affected that she has remained in a melancholy state ever since. This is one selected out of the too numerous and fatal effects from wantonly handling fire-arms; and it ought to be recollected, that, should any previous quarrel between the parties be brought forward, the laws of the country may bring the unhappy survivor to an ignominious end.

Two recent instances, (which are mentioned with the wish of increasing the caution necessary to be observed in all cases where fire-arms are handled,) occurred in August and September, 1806; the first where the son of Mr. Turkin, at Taunton, a young gentleman about seventeen years old, had fired one of the barrels of his double-barrelled gun, and returned to the house, thoughtless of the other being loaded.—It accidentally went off, and the contents were lodged in the arm and side of his sister, a most amiable girl, two years older than himself; and although every assistance was immediately procured, a few hours terminated her existence.—The latter was in the county of Bucks, when Mr. Pincott, a hop-factor at Clapton, was shot in the following manner:—he went out shooting with a gentleman at whose house he was visiting; having occasion to get over a hedge during their diversion, the deceased, who was a man of agility, first passed over, and in order to assist his friend gave him the butt end of the piece to help him up the bank: the gun discharged, and lodged its contents in the body of Mr. P. who immediately expired. This is a practice very frequently adopted; but it is to be hoped this accident will operate so as to show the danger, and to prevent its being ever again resorted to.

"Never display skill by firing close to the head of either man or beast. A story is told of two persons shooting together, when one of them, an exhibitor in this way, put several shots into his friend's arm, who made suitable outcries. In the course of the day the compliment was returned with interest, by the wounded man:—'You're a pretty fellow (exclaimed the man last hit) to be so vociferous about my shooting you this morning; why, d—n me, I have half your charge now in my leg.'—'Very likely, (replied the other, coolly,) but I killed my hare, and your bird was missed.'

"In shooting alone with a double gun, it frequently occurs, that the attention is taken up by a wounded bird, and the opportunity of a second shot is neglected; or, upon a second bird being shot at, the first is lost, although, if observed, it might have been easily retrieved. In company, the *marker* to a double gun should keep his eye upon the first bird, if wounded, and leave the second to the shooter himself.

"The marker should however recollect that the harder a bird is hit, especially at long distances, when only one or two grains have taken place, the less visible signs of it are observed, unless the bird drops the legs, or instantly *towers;* for which reason the marker's eye should be kept on the bird as far as it can be seen: it frequently happens, that a bird falls dead, four or five hundred yards from the place where first struck, and is as frequently lost for want of proper attention to its flight. When a bird is seen to drop its legs at the instant of firing, and fly off with an undulating motion, or tower to a great height, both these are certain signs of death, and are generally occasioned by a contusion on the *vertebræ*; for if the spine is injured, *paralysis* ensues. If the brain is contused, the bird towers, but the legs are not pendent."

RABBIT SHOOTING.

This amusement never appeared to me as coming fairly within the class of what are generally understood as constituting field sports; and on this account, no article, under the present head, has appeared in the previous editions of this work. However, at the suggestion of a much-valued friend, I have been induced to say a few words on the subject, in order to render the work as complete as possible.

As far as relates to the natural history of this little animal, and its surprising fecundity, they are matters so well and so generally known, as to render detail quite unnecessary on the present occasion.

In some parts of the country rabbits form a sort of staple commodity with the occupiers of the ground; but, generally speaking, they are a nuisance to the farmer and the agriculturist, when suffered to become numerous at a distance from an established warren. But I am always much pleased to see plenty of rabbits in a fox-hunting country; and I am decidedly of opinion, that under such circumstances, however numerous foxes may be, those who are anxious to preserve winged game have little to apprehend from their depredations.

As rabbits are not able to form their burrows in strong clayey* soils, so they are rarely found upon them. Sandy or light dry soils are the favourite resort of these animals, as in such places they can easily form that subterraneous asylum in which they never fail to seek refuge on any emergency. But, although rabbit warrens appear like a honeycomb, from the numerous holes

* If they attempt to scratch the earth in such places, the clay adheres to their feet, and entirely prevents their successful progress.

formed upon them, and although a solitary rabbit is seldom, if ever, found at any considerable distance from its hole, yet it is evident that the rabbit prefers being upon the ground, rather than under it, and considers its vaulted recess merely as a place of refuge. If undisturbed, they will sit in the hedge-rows, or in the fields, like the hare; and even the female, when about to bring forth, generally quits the regular or accustomed burrow, and forms a more superficial, but less obvious, retreat, in which to deposit her young.

It will, therefore, easily be perceived, that it is in the immediate vicinity of the warren that we are to expect rabbit shooting, (large or small as it happens to be,) as the rabbits, when disturbed, make away for their burrow, and thus present an object for the shooter. For rabbit shooting a terrier is preferable to either pointer, setter, or spaniel:—to use a pointer or setter for the purpose, is at once to ruin him; nor, indeed, strictly speaking, ought a rabbit to be killed over either of them under any circumstances. An obedient terrier, that will spring the rabbit without pursuing it, answers the purpose very well: his business is merely to drive the rabbits from the banks, hedge-rows, sides of pits, dry pits, and other places; while the shooter must be on the alert, ready to present the moment the rabbit appears. This *amusement* (for I think it scarcely merits the title of *diversion)* is a very different business from shooting at winged game, or even at a hare; as, in the latter case, *deliberation* may be regarded as a perfection; in the former, the shooter cannot be *too quick* The rabbit possesses extraordinary speed for a short distance, and, when disturbed from its seat, darts towards its hole or burrow with the utmost rapidity, and that, too, in such a jumping, jerking manner, as to render the utmost promptitude and quickness indispensably necessary, in order to attain the object in view, viz. bagging the rabbit.

The first time I tried my hand at regular rabbit shooting, I

was very much mortified at the ill success of its commencement. In the early part of the day, I had been attempting to shoot on the manor of Wrightington, in Lancashire, belonging to C. Dicconson, Esq. attended by two of that gentleman's keepers—I say *attempting*, as, from the rainy and boisterous state of the weather, and it being rather late in the season, it was almost impossible to get a shot at partridges. Under such circumstances, by the advice of the keepers I proceeded towards Mr. Dicconson's warren, for the purpose of trying my hand at rabbit shooting. I had occasionally killed rabbits which had presented themselves when I was in pursuit of other game; and, being a tolerable marksman at winged game, I entertained no idea of the disappointment I was about to experience. We proceeded to a hedge-row; and in a few minutes one of the keepers (who beat the hedge on the opposite side) vociferated the well-known signal, "*Mark!*" Out sprung a rabbit, which I very *deliberately* fired at and missed! Thus I continued for six successive discharges, when one of the keepers observed, that, unless I altered my plan, I should not be able to kill a single rabbit. "Keep your thumb on the cock, Sir," said he, "ready to pull up, and fire as quickly as possible." I took his advice. In a few seconds, the word "*Mark!*" again prepared me for game. I had the gun to my shoulder at the first glance of the rabbit; and the moment I could catch the sight or aim, I pulled the trigger, and over tumbled the rabbit. I killed the three following, missed the fifth, and killed five more in succession, thus bagging four couple and a half out of ten shots.

I learned from the keeper, that Mr. Dicconson was so expert at rabbit shooting, as frequently to substitute a ball for the shot, and that too successfully.

It is a practice with some of our modern shooters, to carry the gun cocked—a system pregnant with danger. Rabbit shooting alone seems to require such a method; but even in this case

it is unnecessary, as rabbits can be killed with almost unerring certainty in the manner I have above described. I am not aware of a more dangerous practice than that of carrying guns cocked; no wonder if such a system produce many fatal accidents. I would abandon shooting altogether, rather than thus place my own or my friend's life in continual jeopardy.

In rabbit shooting a ferret is sometimes employed. In this case the mouth of the ferret is stitched up or secured, and it is suffered to enter the burrows, from which the rabbits (if there are any) will very soon bolt, so great is their terror of this creature, and indeed of all the weasel tribe. In riding over from Liverpool to Chester, as I approached Bromborough Pool, I perceived, in a field on my right, a rabbit pursued by a weasel. The rabbit, though a considerable distance in advance, did not appear to exert its utmost speed. The pursuit, however, continued. The rabbit went through the hedge, and was followed by its merciless foe; but the latter, on passing the hedge, having lost sight of its victim, instantly put its nose down, and flung for the scent like a hound. The rabbit, in the mean time, had gained some distance, but slackened its pace, and ultimately sat still till the weasel approached and seized it. I instantly alighted, and, as the distance was short, I was soon at the spot. The weasel retreated; the rabbit seemed dead; but this was the effect of fear, as, after I had carried it for some distance on the road, it recovered, and ran very stoutly away.

But to return. In rabbit shooting with a ferret, the rabbit, after being bolted by the ferret, is fired at in passing from one hole to another. This amusement, however, is, in my opinion, inferior to that which is obtained by means of the terrier.

ROOK SHOOTING.

At a period of the year when field sports cannot be pursued, rook shooting may be enjoyed as a sort of semi-diversion. The rook, it is well known, is one of our very earliest birds in forming its nest; and the production of its young seems to experience no injury, except from very high winds, and very rarely even from these, as the bird contrives to fasten its nest so strongly to the branch upon which it is formed, that it is but very rarely it is blown from its situation. Plenty of young rooks may, therefore, be generally expected. The middle and latter end of the month of May is the season for rook-shooting. As soon as the young birds have acquired sufficient strength, they sit or perch on the sides of the nest, and on the neighbouring branches, and thus form a conspicuous object for the shooter. The air-gun and the cross-bow are the engines generally used for this amusement, the former of which is preferable, not merely on account of its superiority in taking aim, but also inasmuch as it is attended with less trouble and less danger. In drawing up the string of the cross-bow, considerable strength is required; and, at the same time, great care is necessary, lest it should slip, and severely injure the cheek or face of the shooter.

PIGEON SHOOTING.

Those who feel anxious on the subject of pigeon shooting, could not fail to be highly gratified by a visit to the Red House, at Battersea, where the business is pursued in the first style of excellence. The reader need hardly be told that, in pigeon

shooting, the bird is placed in a trap, (at a certain distance, as previously agreed upon,) from which it is set free at a given time and fired at by the sportsman. Mr. Osbaldeston, Lord Anson, Captain Ross, Mr. Shoubridge, Lord Ranelagh, &c. may be classed amongst the first of modern pigeon shooters; though the very best of their performances have scarcely equalled those of the late Richard Toomer*, who, for a wager, shot six pigeons, out of ten, with a single ball. This man and his brother Edward, have been known to shoot at pigeons from a trap with their rifles and a single ball, and to kill eight birds out of twelve, shooting alternately, and one of the pigeons, that did not drop, had its legs carried off by the ball. They have likewise, with a single ball, struck twice out of four shots, a cricket ball thrown into the air. The exploits which R. Toomer performed in shooting with such apparent ease soon convinced the persons who saw them, that they were done *methodically;* and this was completely ascertained by his frequently suffering himself to be blinded with a double handkerchief over his eyes, after having taken his aim, and then to fire and hit a small object.

AQUATIC & FEN BIRDS.

It was not originally the intention of the writer to have entered into the subject of shooting farther than what related to those animals denominated *game;* but as what are called wild fowl frequently present themselves during winter to the attention of the sportsman, and as those gentlemen who reside near the fens and marshes frequently amuse themselves in those places when superior sport is unattainable, in order to render the

* The same person, who taught Slut, the black sow, to set, &c.

" Shooter's Companion," as complete as possible, I shall sketch the history of aquatic and fen birds, as well as describe the most approved mode of following the diversion of wild fowl and fen shooting. Those birds which frequent the fens, but are not web footed, will first come under consideration.

The progressions of nature from one class of beings to another, are always by slow and almost imperceptible degrees. She has peopled the woods and the fields with a variety of the most beautiful birds; and, to leave no part of her extensive territories untenanted, she has stocked the waters with its feathered inhabitants also: she has taken the same care in providing for the wants of her animals in this element, as she has done with respect to those of the other; she has used as much precaution to render water-fowl fit for swimming, as she did in forming land-fowl for flight; she has defended their feathers with a natural oil, and united their toes by a webbed membrane; by which contrivances they have at once security and motion. But between the classes of land-birds that shun the water, and water-fowl that are made for swimming and living on it, she has formed a very numerous tribe of birds, that seem to partake of a middle nature; that, with divided toes, seemingly fitted to live on land are at the same time furnished with appetites that chiefly attach them to the waters. These can properly be called neither land-birds nor water fowl, as they chiefly derive their sustenance from watery places, and yet are unqualified to seek it in those depths where it is often found in greatest plenty.

This class of birds, of the crane kind, are to be distinguished from others rather by their appetites than their conformation. Yet even in this respect they seem to be sufficiently discriminated by nature: as they are to live among the waters, yet are incapable of swimming in them, most of them have long legs, fitted for wading in shallow waters, or long bills proper for groping in them.

Every bird of this kind, habituated to marshy places, may be known, if not by the length of its legs, at least by the scaly surface of them. Those who have observed the legs of a snipe or a woodcock, will easily perceive my meaning; and how different the surface of the skin that covers them is from that of the pigeon or the partridge. Most birds of this kind also, are bare of feathers half way up their thighs; at least, in all of them, above the knee.—Their long habits of wading in the waters, and having their legs continually in moisture, prevents the growth of feathers on those parts; so that there is a surprising difference between the leg of a crane, naked of feathers almost up to the body, and the falcon, booted almost to the very toes.

The bill also is very distinguishable in most of this class. It is, in general, longer than that of other birds, and in some finely fluted on every side; while at the point it is possessed of extreme sensibility, and furnished with nerves, for the better feeling their food at the bottom of marshes, where it cannot be seen. Some birds of this class are thus fitted with every convenience: they have long legs, for wading; long necks, for stooping; long bills, for searching; and nervous points, for feeling. Others are not so amply provided for; as some have long bills, but legs of no great length; and others have long necks, but very short legs. It is a rule which universally holds, that where the bird's legs are long, the neck is also long in proportion. It would indeed be an incurable defect in the bird's conformation, to be lifted upon stilts above its food, without being furnished with an instrument to reach it.

If we consider the natural power of this class, in a comparative view, they will seem rather inferior to those of every other tribe. Their nests are more simple than those of the sparrow; and their methods of obtaining food less ingenious than those of the falcon; the pie exceeds them in cunning; and though they have all the voraciousness of the poultry tribe, they want their

fecundity. None of this kind, therefore, have been taken into man's society, or under his protection; they are neither caged like the nightingale, nor kept tame like the turkey, but lead a life of precarious liberty in fens and marshes, at the edges of lakes and along the sea-shore. They all live upon fish or insects, one or two only excepted.

All this class, therefore, that are fed upon insects, their food being easily digestible, are good to be eaten; while those which live entirely upon fish, abounding in oil, acquire in their flesh the rancidity of their diet, and are, in general, unfit for our tables. To savages, indeed, and sailors on a long voyage, every thing that has life would appear good to be eaten; and we often find them recommending those animals as dainties, which they themselves would spurn at after a course of good living. Nothing is more common in their journals than such accounts as these—"this day we shot a fox—pretty good eating; and this day we shot a heron—pretty good eating: and this day we killed a turtle"—which they rank with the heron and the fox, as "pretty good eating." Their accounts, therefore, of the flesh of these birds, are not to be depended upon; and when they cry up the heron or the stork of other countries as luxurious food, we must always attend to the state of their appetites who give the character.

THE DOTTEREL.

The length of the dotterel is about ten inches. The bill is not quite an inch long, and is black. The forehead is mottled with brown and grey: the top of the head is black; and over each eye there is an arched line of white, which passes to the hind part of the neck. The cheeks and throat are white; the

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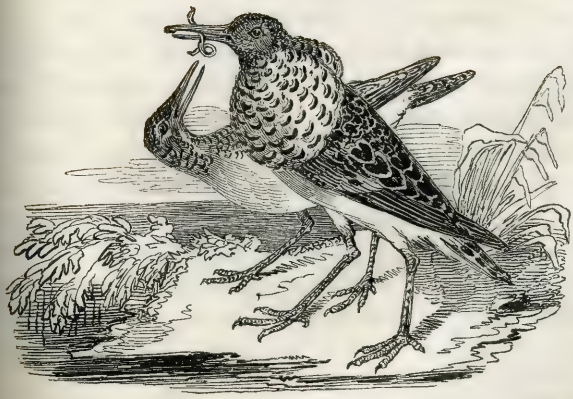
DOTTEREL.



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RUFF AND REEVE.

back and wings are of a light brown inclining to olive, each feather margined with pale rust colour. The fore part of the neck is surrounded by a broad band of a light olive colour, bordered below with white. The breast is of a pale dull orange; the middle of the belly black; and the rest of the belly and the thighs are of a reddish white. The tail is olive brown, black near the end, and tipped with white; and the outer feathers are margined white. The legs are of a dark olive.

These birds are migratory: appearing in flocks of eight or ten, about the end of April; and staying all May and June, when they become very fat, and are much esteemed for the table. They are found in tolerable plenty in Cambridgeshire, Lincolnshire, and Derbyshire; but in other parts of the kingdom they are scarcely known. They are supposed to breed among the mountains of Westmoreland and Cumberland.

The dotterel is in its manners a very singular bird, and may be taken by the most simple artifice. The country people are sometimes said to go in quest of it, in the night, with a lighted torch or candle: and the bird on these occasions will mimic the actions of the fowler with great archness. When he stretches out an arm, it stretches out its wing; if he moves a foot, it moves one also; and every other motion it endeavours to imitate. This is the opportunity that the fowler takes of entangling it in his net. Willoughby, however, cites the following case:—six or seven persons usually went in company to catch dotterels. When they found the bird, they set their net in an advantageous place; and each of them holding a stone in either hand, they got behind it, and striking the stones one against the other, roused it from its natural sluggishness, and by degrees drove it into the net. The more certain method of the gun has of late superseded both these artifices.

THE WHEAT EAR.

This bird visits England annually in the middle of March, and leaves us in September. The females come first, about a fortnight before the males; and they continue to come till the middle of May. In some parts of England they are found in vast plenty, and are much esteemed. About Eastbourne, in Sussex, they are taken in snares made of horse-hair, placed beneath a long turf. Being very timid birds, the motion even of a cloud, or the appearance of a hawk, will immediately drive them into the traps.

These traps are first set every year on St. James's day, the twenty-fifth of July; soon after which they are caught in astonishing numbers, considering that they are not gregarious, and that more than two or three are scarcely ever seen flying together. The number annually ensnared in the district of Eastbourne alone, is said to amount to nearly two thousand dozen. The birds caught are chiefly young ones, and they are invariably found in the greatest number when an easterly wind prevails; they always come against the wind. A gentleman informed Mr. Markwick, that his father's shepherd once caught eighty-four dozen of them in a day. Great quantities of them are eaten on the spot by the neighbouring inhabitants; others are sent up to the London poulterers, and many are potted, being as much esteemed in England as the ortolans are on the continent of Europe.

The vast plenty of these birds on the downs about Eastbourne, is supposed by Mr. Pennant to be occasioned by a species of fly, their favourite food, that feeds on the wild thyme, and abounds on the adjacent hills.

A few of the birds breed in the old rabbit-burrows there.

The nest is large, and made of dried grass, rabbit's down, a few feathers, and horse-hair. The eggs are from six to eight, and are of a light colour.

THE RUFF & REEVE.

The ruff is about a foot in length, with a bill of about an inch. The face is covered with yellow pimples; and the back part of the head and neck are furnished with long feathers, standing out somewhat like the ruff worn by our ancestors; a few of these feathers stand up over each eye, and appear not unlike ears. The colours of the ruffs are in no two birds alike: in general they are brownish, and barred with black; though some have been seen that were altogether white. The lower parts of the belly and the tail coverts are white. The tail is tolerably long, having the four middle feathers barred with black; the others are pale brown. The legs are of a dull yellow, and the claws black.—The female, which is called the reeve, is smaller than the male, of a brown colour, and destitute of the ruff on the neck.

The male bird does not acquire his ruff till the second season, being till that time in this respect like a female: as he is also from the end of June till the pairing season, when nature clothes him with the ruff, and the red pimples break out on his face; but after the time of incubation the long feathers fall off, and the caruncles shrink in under the skin so as not to be discerned.

These are birds of passage; and arrive in the fens of Lincolnshire, in the isle of Ely, and the East Riding of Yorkshire, in the spring in great numbers. Mr. Pennant tells us, that in the course of a single morning there has been above six dozen

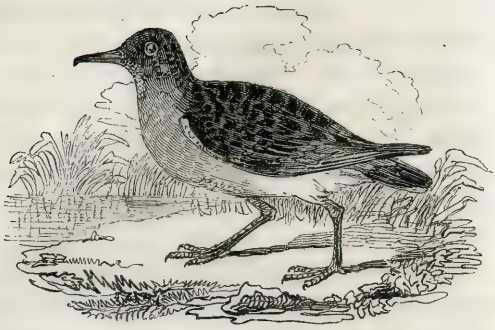
caught in one net: and that a fowler has been known to catch between forty and fifty dozen in a season.

The males are much more numerous than the females, and they have many severe contentions for their mates. The male chooses a stand on some dry bank, near a plash of water, round which he runs so often as to make a bare circular path: the moment a female comes in sight, all the males within a certain distance commence a general battle; placing their bills to the ground, spreading their ruff, and using the same action as a cock: and this opportunity is seized by the fowlers, who, in the confusion, catch them, by means of nets, in great numbers.

An erroneous opinion prevails very generally, that the ruffs when in confinement must be fed in the dark, lest the admission of light should set them to fighting. The fact is, that every bird, even when kept in a room, takes its stand as it would in the open air; and if another invades its circle, a battle ensues. A whole room full of them may be set into fierce contest by compelling them to shift their stations; but, after the disturber has quitted the place, they have been observed to resume their circles, and become again pacific. In confinement their quarrels originate in the circumstance of the pan containing their food not being sufficiently large to admit the whole party to feed without touching each other. When the food has been divided into several pans, the birds have continued perfectly quiet.

The reeves lay four eggs, in a tuft of grass, about the beginning of May; and the young are hatched in about a month.

It is not known with certainty in what country these birds pass the winter.



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KNOT.

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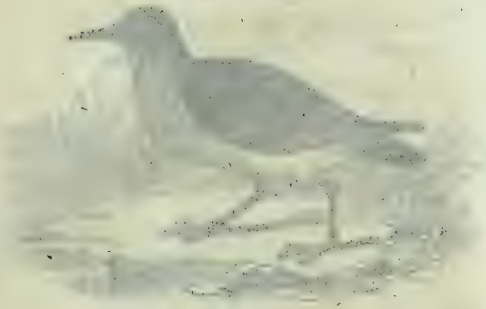
GODWIT.

THE KNOT.



THE KNOT.

This bird, which frequents the fens, is taken in the same manner as the ruffs and reeves. The knot is said to have been a favourite dish with Canute, king of England; and Camden observes, that its name is derived from the monarch Knute or Knout, as he was called, which, in process of time, has been changed to Knot. These birds are caught in Lincolnshire, and other fenny counties, by nets, into which they are decoyed by stale birds, carved and painted so as to represent themselves, and placed within the range of the nets: their numbers are so considerable, that Mr. Pennant states fourteen dozen to have been taken at once. They are fattened in the same way as the ruffs, and by some are supposed to excel that bird in flavour. The season for taking them is from August to November, after which they in general disappear with the first frosts. The weight of the knot is four ounces and a half, length from nine to ten inches, breadth from sixteen to twenty inches. Bill one inch and a quarter, black at the tip, and dusky ash fading into orange towards the base. Tongue extends to the very end of the bill, and is sharp and horny at the point. Irides hazel; from the bill to the eye a dusky line; over the eye a white one: the top of the head, neck, back, and wings, ash colour; lower order of coverts tipped with white, and edged a little way up with the same, making a bar across the wing when extended; greater quills darker, with white shafts: lower part of the back and tail coverts dark ash colour, mixed with white, forming spots like crescents: tail ash coloured; the under part from the throat to the vent, white, with small dusky spots on the throat and breast; the sides under the wings, the belly, thighs, and vent, crossed with dusky lines; ridge of the wing white; the thighs feathered

very nearly to the knee; the legs are short, in some blueish ash colour, in others reddish yellow; the toes are divided without any membrane. These birds, however, like others of the same genus, vary considerably from each other in their appearance at different seasons of the year, as well as from age and sex. Knots have been observed about Lake Baikal, and Mr. Pennant mentions a specimen which came from New York.

THE GODWIT

is taken at the same time, and in the same manner, with the ruffs and knots; and when ready for market, each sells for five shillings and upwards. In the spring and summer it resides in the fens and marshes, where it rears its young, and lives upon small worms and insects. During these seasons it only removes from one marsh or fen to another; but when the winter sets in with severity, (for the godwit continues with us the whole year) it seeks the salt-marshes, and the sandy shores by the sea-side, which for a great space are uncovered at the ebbing of the tide, where it walks like the curlew, and feeds upon the insects which there abound.

The bird is rather bigger than the woodcock, being in length from sixteen to eighteen inches, and between the tips of the extended wings twenty-eight inches broad. The weight twelve ounces. Bill four inches long, bending a little upwards, black at the point, gradually softening into a pale purple towards the base; the under mandible the shortest; the tongue sharp; the nostrils oblong; and the ears large. A whitish streak passes from the bill to the eye; the head, neck, and upper parts, of a dingy reddish brown, each feather marked down the middle with a dark spot. The fore part of the breast is streaked with black:

in the female the throat and neck are grey or ash-coloured; the belly, vent, and tail, are white, the latter regularly barred with black; the six prime quill feathers are black, edged on the interior sides with reddish brown. In some birds the rump is white, and the chin nearly so; the legs are not very long, naked to the middle of the second joint, and are generally dark coloured, inclining to a greenish blue.

The godwit is met with in various parts of the continent of Europe and Asia, as well as in America: at Hudson's Bay, the red godwit, in particular, is so plentiful, that Mr. Atkinson, long resident at York Fort, killed seventy-two at one shot!

PLOVERS.

There are three sorts of these birds which are objects of the sportsman's pursuit; the golden, the grey, and the peewit or lapwing.

The golden plover is the size of the turtle-dove; its weight nine ounces; length eleven inches, breadth twenty-four; the bill is short and black; the feathers on the head, back, and wing coverts, are dusky, beautifully spotted on each side with light yellowish green; round the eyes and the chin almost white; sides of the head, the neck, and sides of the body, the same as the upper parts, but much paler; the breast brown, marked with greenish oblong strokes; the middle feathers of the tail barred with black and yellowish green; the greater quills are dusky; the legs black; and it wants the black toe, by which it is distinguished from other birds of its kind. There is some variety seen in the colour of the belly; this is owing to the season: about the beginning of March, the appearance of black in the breast is first seen, increasing by degrees, until that part becomes a full black; but

after the time of incubation, this tint again disappears, and the belly is white. The male and female differ very little, and in the young birds the spots are not of a full yellow, but incline more to grey.

M. Baillon, who has observed these birds in Picardy, asserts that their early plumage is grey; that at their first moult in August and September, they get some feathers of a yellow cast, or which are spotted with that colour; but it is not until after some years that they acquire their fine golden tint. He adds, that the females are hatched entirely grey, and only when old assume a little yellow; and that it is very rare to see their feathers so uniform and beautiful as the males. No longer need the distinction of tints in this species of birds be remarked, since this gentleman has proved, that the varieties result from the difference of age and sex.

This elegant bird inhabits England the whole year, and breeds on several of our unfrequented mountains; is very common on those of the isle of Rum, and others of the loftier Hebrides; also on the Grampian, and all the heathy hills of the islands and highlands of Scotland: millions are found in the Orkneys, from which they never entirely emigrate; they lay four eggs, two inches in length, more pointed in shape than those of the lapwing, and of a pale cinereous olive, blotched with blackish spots; they make a whistling noise, and fly in small flocks, and, by a skilful imitation of the note, may be enticed within shot. They frequent, in November, meadows and commons; and there was once an instance of a warrener near Bristol killing eleven at one shot. Their flesh is sweet and tender; they are dressed like the woodcock, with their trail, and are excellent eating.

The golden plover is common in all the northern parts of Europe. It is numerous in America, from Hudson's Bay to Carolina; migrating from one part to another according to the seasons: is met with to the south as far as Aleppo; and if, says

Latham, the species is not mistaken, in the island of Batavia and in China. Our last voyagers found them at Owhyhee, Tongataboo, and also York Islands, but of a smaller size.

THE GREY PLOVER

is about twelve inches long and twenty-five broad, and weighs seven ounces; the bill is black, about an inch long: in the roof of the mouth is a double row of spinous appendages pointing inwards; the head, back, and wing coverts, are of a dusky brown, edged with greenish ash colour, and some with white; the cheeks and throat white, marked with oblong dusky spots; the belly, thighs, and rump, white; the exterior webs of the quill feathers black; the lower part of the interior webs of the first four white: the tail is short, does not project beyond the wing, and is marked with transverse bars of black and white; the legs are of a dirty green; the back toe extremely small. This bird is in no great abundance, in England;* they generally come in small flocks about October, and leave this country about March: in cold and frosty weather they seek their food on such lands as lie near the sea; in open weather they feed in ploughed fields, especially if sown; and, having fed, fly to some plash of water to wash their beaks and feet—a habit which is also common to the wood-

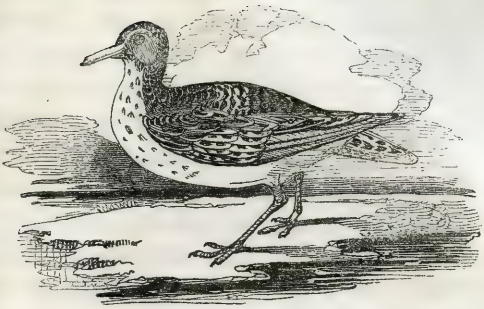
* Mr. Gilpin speaks of them as sometimes abounding in the New Forest. "Plovers of different kinds (says that gentleman) are common in its heathy parts. I have sometimes seen large flocks of the grey species, and admired them as they encircled the air; in their regular flight they in some degree resemble water-fowls, but are not so determined in their course, wheeling about and forming various evolutions: at times they appear scattered and in confusion, until closing together, as if by some word of command, they get again into form."

cocks, the lapwings, the curlews, and many other birds which feed on worms; they sleep chiefly in the day in calm weather, passing most of the night in running up and down after the worms, which then creep out of the ground: at that time they make a small cry, as if to keep their flock collected till day-break, when they unite and fly to the coast; they are sometimes taken in nets at their first coming, and the fowler is cautious to set his nets to play with the wind; for instance, when the wind is easterly, that they may play westerly. The north-west is the worst wind to take them; all sea-fowl fly against the wind, whenever they design to rest on the land. The preferable places for setting the nets are in large common fields of green corn, and near to water, for there they are sure to resort to clean their beaks and feet: their flesh is very delicate. In Carolina they are seen in the valleys, near the mountains, in great numbers, but seldom alight; are also very common in Siberia, appearing there in autumn in vast flocks, coming from the extreme north, where they breed.

THE LAPWING OR PEEWIT.

This bird is too well known to need any description here. It is found in most parts of Europe, as far northward as Iceland. In the winter it is met with in Persia and Egypt.

The chief food of the lapwings is worms; and sometimes they may be seen in flocks nearly covering the low marshy grounds in search of these, which they draw with great dexterity from their holes. When the bird meets with one of those little clusters of pellets, or rolls of earth, that are thrown out by the worm's perforations, it first gently removes the mould from the mouth of the hole, then strikes the ground at the side with its



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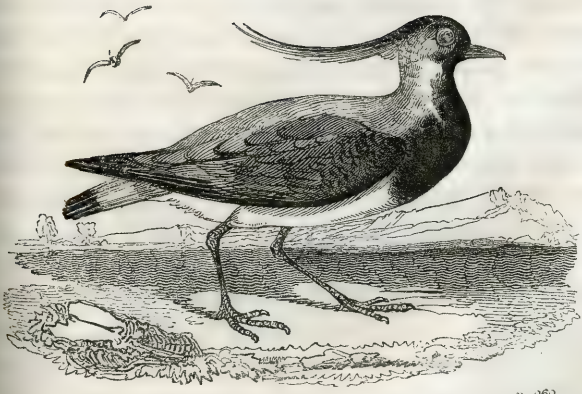
GREY PLOVER.



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LAPWING.

foot, and steadily and attentively waits the issue: the reptile, alarmed by the shock, emerges from its retreat, and is instantly seized. In the evening the lapwings pursue a different plan: they run along the grass and feel under their feet the worms, which now come forth invited by the coolness of the air. Thus they obtain a plentiful meal; and afterwards wash their bill and feet in the small pools or rivulets.

"I have seen this bird (says Dr. Latham) approach a worm-cast, turn it aside, and, after making two or three turns about, by way of giving motion to the ground, the worm came out, and the watchful bird, seizing hold of it, drew it forth."

They remain in England the whole year. The female lays four eggs on the dry ground, near some marsh, upon a little bed which she prepares of dry grass. These are olive-coloured and spotted with black. She sits about three weeks, and the young are able to run within two or three days after they are hatched.

The parent exhibits the greatest attachment to them; and the arts used by this bird to allure boys and dogs from the place where they are running, are extremely amusing. She does not wait the arrival of her enemies at the nest, but boldly pushes out to meet them. When as near as she dare venture, she rises from the ground with a loud screaming voice, as if just flushed from hatching, though probably at the same time not within a hundred yards of her nest. She now flies with great clamour and apparent anxiety; whining and screaming around the invaders, striking at them with her wings, and sometimes fluttering as if she was wounded. To complete the deception, she becomes still more clamorous as she retires from the nest. If very near, she appears altogether unconcerned, and her cries cease in proportion as her fears are augmented. When approached by dogs, she flies heavily, at a little distance before them, as if maimed; still vociferous, and still bold, but never offering to move towards the quarter where her young are stationed. The dogs pursue

in expectation every moment of seizing the parent, and by this means actually lose the young, for the cunning bird having thus drawn them off to a proper distance, exerts her powers, and leaves her astonished pursuers to gaze at the rapidity of her flight.

There are few readers acquainted in any degree with the country, who will not recollect how justly the following lines describe the manners of this bird:—

> ———Hence, around the head
> Of wand'ring swains, the white-wing'd plover wheels
> Her sounding flight; and then directly on,
> In long excursion, skims the level lawn,
> To tempt him from her nest.

The following anecdote exhibits the domestic nature of the lapwing, as well as the art with which it conciliates the regard of animals materially differing from itself, and generally considered as hostile to every species of the feathered tribe. Two lapwings were given to a clergymam, who put them into his garden; one soon died, but the other continued to pick up such food as the place afforded, till winter deprived it of its usual supply. Necessity soon compelled it to draw nearer the house, by which it gradually became familiarized to occasional interruptions from the family. At length, one of the servants, when she had occasion to go into the back-kitchen with a light, observed that the lapwing always uttered his cry of "*pee-wit*" to obtain admittance. He soon grew more familiar: as the winter advanced, he approached as far as the kitchen, but with much caution, as that part of the house was generally occupied by a dog and cat, whose friendship, however, the lapwing at length conciliated so entirely, that it was his regular custom to resort to the fireside as soon as it grew dark, and spend the evening and night with his two associates, sitting close by them and partaking of the comforts of the warmth. As soon as spring ap-

peared he discontinued his visits to the house, and betook himself to the garden; but on the approach of winter he had recourse to his old shelter and friends, who received him very cordially. Security was productive of insolence; what was at first obtained with caution, was afterwards taken without reserve: he frequently amused himself with washing in the bowl which was set for the dog to drink out of; and while he was thus employed he shewed marks of the greatest indignation if either of his companions presumed to interrupt him. He died in the asylum he had thus chosen, being choaked with something he had picked up from the floor.

THE BITTERN OR MIRE-DRUM.

Those who have walked in an evening by the sedgy sides of unfrequented rivers, must remember a variety of notes from different water-fowl: the loud scream of the wild-goose, the croaking of the mallard, &c. &c. But of all those sounds, there is none so dismally hollow as the booming of the bittern. It is impossible for words to give those who have not heard this evening call an adequate idea of its solemnity. It is like the interrupted bellowing of a bull, but hollower and louder, and is heard at a mile's distance, as if issuing from some formidable being that resided at the bottom of the waters.

The bird, however, that produces this terrifying sound, is not so big as a heron, with a weaker bill, not above four inches long. It differs from the heron chiefly in its colour, which is in general of a palish yellow, spotted and barred with black. Its windpipe is fitted to produce the sound for which it is remarkable; the lower part of it dividing into the lungs is supplied with a thin loose membrane, that can be filled with a large body of air and

exploded at pleasure. These bellowing explosions are chiefly heard from the beginning of spring to the end of autumn, and, however awful they may appear to us, are the calls to courtship or expressions of connubial felicity.

From the loudness and solemnity of the note, many have been led to suppose that the bird made use of external instruments to produce it, and that so small a body could never eject such a quantity of tone. The common people are of opinion that it thrusts its bill into a reed, that serves as a pipe for swelling the note above its natural pitch; while others, and in this number we find Thompson the poet, imagine that the bittern puts its head under water, and then violently blowing, produces its boomings. The fact is, that the bird is sufficiently provided by nature for this call, and it is often heard where there are neither reeds nor waters to assist its sonorous invitations.

It hides in the sedges by day, and begins its call in the evening, booming six or eight times, and then discontinuing for ten or twenty minutes, to renew the same sound. This is a call it never gives but when undisturbed, and at liberty. When its retreats among the sedges are invaded, when it dreads or expects the approach of an enemy, it is then perfectly silent. This call it has never been heard to utter when taken or brought up in domestic captivity; it continues under the control of man a mute forlorn bird, equally incapable of attachment or instruction. But though its boomings are always performed in solitude, it has a scream which is generally heard upon the seizing its prey, and which is sometimes extorted by fear.

This bird, though of the heron kind, is yet neither so destructive nor so voracious. It is a retired timorous animal, concealing itself in the midst of reeds and marshy places, and living upon frogs, insects, and vegetables; and though so nearly resembling the heron in figure, yet differing much in manners and

appetites. As the heron builds on the tops of the highest trees, the bittern lays its nest in a sedgy margin, or amidst a tuft of rushes. The heron builds with sticks and wool; the bittern composes its simpler habitation of sedges, the leaves of water-plants, and dry rushes. The heron lays four eggs; the bittern generally seven or eight, of an ash-green colour. The heron feeds its young for many days; the bittern in three days leads its little ones to their food. In short, the heron is lean and cadaverous, subsisting chiefly upon animal food; the bittern is plump and fleshy, as it feeds upon vegetables, when more nourishing food is wanting.

It cannot be, therefore, from its voracious appetites, but its hollow boom, that the bittern is held in such detestation by the vulgar. "I remember, in the place where I was a boy, with what terror this bird's note affected the whole village; they considered it as the presage of some sad event, and generally found or made one to succeed it. I do not speak ludicrously; but if any person in the neighbourhood died, they supposed it could not be otherwise, for the night-raven had foretold it; but if no body happened to die, the death of a cow or a sheep gave completion to the prophecy."

Whatever terror it may inspire among the simple, its flesh is greatly esteemed among the luxurious. For this reason it is as eagerly sought after by the fowler as it is shunned by the peasant; and as it is a heavy rising, slow winged bird, it does not often escape him. Indeed, it seldom rises but when almost trod upon, and seems to seek protection rather from concealment than flight. At the latter end of autumn, however, in the evening, its wonted indolence appears to forsake it. It is then seen rising in a spiral ascent, till it is quite lost from the view, making at the same time a singular noise, very different from its former boomings. Thus the same animal is often seen to assume dif-

ferent desires; and while the Latins have given the bittern the name of the star-reaching bird, the Greeks, taking its character from its more constant habits, have given it the title of the lazy bird.

THE REDSHANK OR POOL SNIPE

resides the greater part of the year in the fen and marshy countries, where it is pretty common; and there it breeds and rears its young, laying four whitish eggs, tinged with olive, and marked with irregular black spots, most numerous at the large end. When disturbed, it has nearly the actions of a lapwing, in flying round its nest, which it is said to do in such regular circles, the nest being in the centre, whether the circuits be larger or smaller, insomuch that an attentive observer will find it by this circumstance. The redshank is in length twelve inches, in breadth twenty-one, and weighs about six ounces: the bill is two inches long, slender, and like a woodcock's; of a dark red at the base, and black towards the point: the tongue is sharp and undivided; the upper mandible longer, and sometimes crooked at the very tip: irides reddish hazel; a whitish line passes over and encircles each eye, from the corner of which a dusky brown spot is extended to the beak. The head and hind part of the neck, dusky ash-colour, spotted with brown: back and scapulars glossy olive brown: wing coverts ash-colour, mixed with dusky and brown, and marked with whitish spots: the bastard wing and primary quills are brown; the inner webs of the latter are deeply edged with white freckled with brown, and some of these quills next the secondaries are elegantly marked near their tips with narrow brown lines, pointed and shaped to the form of each feather. Some of the secondaries are similarly

barred, others are white: the throat and forepart of the breast are marked with short dusky spots; the under parts from the breast, and the lower parts of the back and rump, white, marked with minute dusky spots: tail coverts and tail crossed with narnow bars of black, twelve or thirteen on each feather: legs orange red, and measure, from the end of the toes to the upper bare part of the thigh, five inches and a half: claws black. In some birds both the rump and belly are of a pure white. The redshank is common in many parts of Europe, as high as Finland; is likewise found in Siberia, and is indigenous also to the continent of America.

THE CURLEW

is common in England, where it is to be met with at all seasons. In the winter haunting the sea coast and marshes in great numbers, where they live upon the worms, marine insects, and different fishy substances, which they find upon the beach, and among the loose rocks and shallow pits left by the retiring tide. Their summer residence is upon the heathy, mountainous, boggy moors, where their food consists of worms, slugs, flies, and insects, which their long bills enable them to pick out of the soft mossy earth, and here they breed. The female (which is rather bigger, but whose plumage is nearly like the male's) makes her nest upon the ground, in a dry tuft of rushes or grass, of such withered materials as are found near, and in April lays four eggs, of a pale olive colour, marked with brownish spots. These birds vary much in size, as well as in the different shades of their feathers, some of them weighing not more than twenty-two, and others thirty-seven ounces. In some, the white parts of the plumage are clearer than in others, which are more uniformly

grey, and tinged with pale brown: they utter a very shrill cry, that may be heard at a considerable distance.

The common length of the curlew is two feet, and from tip to tip from three feet to forty inches; the bill is about seven inches long, of a regular curve, and tender substance at the point; the tongue sharp, and very short, extending not further than the angle of the lower chap; the upper mandible is black, gradually softening into brown towards the base, which of the under mandible is flesh-coloured; the feathers of the head, neck, upper part of the back and wing coverts, are of pale brown; the middle of each feather black, edged and deeply indented with pale rust colour, or light grey; the breast, belly, and lower part of the back, dull white, marked with conjunct lines of black, the two former with oblong strokes more thickly set: quills black, spotted on the inner webs with white; tail reddish white, barred with black; the legs are bare a little above the knees, of a dusky blueish colour; the toes are thick, and flat on the underside. The curlew flies swiftly. The flesh of the curlew has been characterised as being very good, and of a fine flavour; by others the direct reverse has been maintained. The truth is, that while they live inland, and on the moors, and are in health and season, scarcely any bird excels them in goodness; but when curlews return to and continue some time on the sea-shores, they acquire a rank and fishy taste.

Curlews are found in most parts of Europe; they abound in all the plains and open marshes, or heath grounds of Russia and Siberia; also in Kamtschatka, Lapland and Iceland, in general retiring north to breed, and returning to the south as autumn approaches. In Italy and Greece, and perhaps much further south, they are met with, as flocks are seen passing over the island of Malta, in spring and autumn.

THE STONE CURLEW.

Of the stone curlew (Charadrius Oedicnemus) Mr. White gives the following account:—That it lays its eggs, which are short and round, of a dirty white, spotted with dark bloody botches, usually two, never more than three, on the bare ground, so that the countryman in ploughing his fallows often destroys them. The young run as soon as they are hatched like partridges, and are withdrawn to some flinty field by the dam, where they skulk among our grey spotted flints, which are so exactly of their colour, as to be such a security, that unless he catches the eye of the young bird, the most accurate observer may be deceived. Oedicnemus is a most expressive name for them, since their legs seem swelled like those of a gouty man, yet they run with the swiftness of a greyhound, and sometimes stop suddenly, holding the head and body motionless. After harvest, Mr. W. says, he has shot them before the pointers in turnip fields. When it flies, this bird stretches out its legs straight behind like an heron. A Sussex friend, to whom Mr. W. applied for further information respecting the stone curlew, states, "that they live with us all spring and summer, and at the beginning of autumn prepare to depart by getting together in flocks. They seem to me a bird of passage, that may travel into some dry hilly country south of us, probably Spain, because of the abundance of sheep-walks in that country; for they spend their summers with us in such districts. I believe they are not fond of going near the water, but feed on earth-worms, that are common on sheepwalks and downs. There is reason to think, that the old do not feed the young ones, but only lead them about at the time of feeding, which, for the most part, is in the night."

OF THE WATER-HEN & THE COOT.

Before we enter upon water fowls, properly so called, two or three birds claim our attention, which seem to form the shade between the web-footed tribe and those of the crane kind. These partake rather of the form than the habits of the crane; and, though furnished with long legs and necks, rather swim than wade. They cannot properly be called web-footed; nor yet are they entirely destitute of membranes, which fringe their toes on each side, and adapt them for swimming. The birds in question are the water-hen and the bald coot.

These birds have too near an affinity not to be ranked in the same description. They are shaped entirely alike, their legs are long, and their thighs partly bare; their necks are proportionable, their wings short, their bills short and weak, their colour black, their foreheads bald and without feathers, and their habits entirely the same. These, however, naturalists have thought proper to range in different classes, from very slight distinctions in their figure. The water-hen weighs but fifteen ounces, the coot twenty-four. The bald part of the forehead in the coot is white; in the water-hen it is of a beautiful pink colour. The toes of the water-hen are edged with a straight membrane; those of the coot have it scolloped and broader.

The differences in the figure are but slight, and those in their manner of living still less. The history of the one will serve for both. As birds of the crane kind are furnished with long wings, and easily change place, the water-hen, whose wings are short, is obliged to reside entirely near those places where her food lies: she cannot take those long journeys that most of the crane kind are seen to perform; compelled by her natural imperfections, as well perhaps as by inclination, she never leaves the side of the

OF THE WATER-HEN & THE COOT.

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BITTERN.

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COOTE.

pond or the river in which she seeks for provision. Where the stream is selvaged with sedges, or the pond edged with shrubby trees, the water-hen is generally a resident there: she seeks her food along the grassy banks, and often along the surface of the water. With Shakspeare's Edgar, she drinks the green mantle of the standing pool; or, at least, seems to prefer those places where it is seen. Whether she makes pond-weed her food, or hunts among it for water insects, which are found there in great abundance, is not certain. I have seen them when pond-weed was taken out of their stomach. She builds her nest upon low trees and shrubs, of sticks and fibres, by the water side. Her eggs are sharp at one end, white, with a tincture of green, spotted with red. She lays twice or thrice in a summer; her young ones swim the moment they leave the egg, pursue their parent, and imitate all her manners. She rears in this manner two or three broods in a season; and when the young are grown up, she drives them off to shift for themselves.

As the coot is a larger bird, it is always seen in larger streams, and more remote from mankind. The water-hen seems to prefer inhabited situations: she keeps near ponds, moats, and pools of water near gentlemen's houses; but the coot keeps in rivers and among rushy-margined lakes. It there makes a nest of such weeds as the stream supplies, and lays them among the reeds, floating on the surface, and rising and falling with the water. The reeds among which it is built keep it fast, so that it is seldom washed into the middle of the stream. But if this happens, which is sometimes the case, the bird sits in her nest, like a mariner in his boat, and steers with her legs her cargo into the nearest harbour: there, having attained her port, she continues to sit in great tranquillity, regardless of the impetuosity of the current; and though the water penetrates her nest, she hatches her eggs in that wet condition.

The water-hen never wanders: but the coot sometimes swims

down the current till it even reaches the sea. In this voyage these birds encounter a thousand dangers: as they cannot fly far, they are hunted by dogs and men; as they never leave the stream, they are attacked and destroyed by otters; they are preyed upon by kites and falcons; and they are taken in still greater numbers in weirs made for catching fish; for these birds are led into the nets while pursuing small fish and insects, which are their principal food. Thus animated nature affords a picture of universal invasion! Man destroys the otter, the otter destroys the coot, the coot feeds upon fish, and fish are universally the tyrants of each other!

THE WATER-RAIL,

although a shy and solitary bird, is sufficiently common in this kingdom, but it is only seen during the winter in the northern parts. It is found chiefly on the edges of ponds and rivulets, much overgrown with sedges, reeds, and other coarse herbage, among which it may find shelter on the appearance of an enemy, and also feed in secret security: it runs, occasionally flirting up its tail, through its tracks with similar swiftness to what the land rail exerts in the meadows and corn-fields; and also shows an equal aversion to take flight as that bird does; and possesses more means of disappointing the sportsman, whose patience it generally exhausts, and distracts his dog, seldom rising until after it has crossed every pool, and skulked through every avenue, within the circle of its retreats: when once flushed, it is, however, easily shot, flying very indifferently, and with its legs hanging down: it will, at times, take to the water, swimming tolerably well, and is often seen running on the surface, where there are any weeds to bear it up.

The eggs of the water-rail, according to Latham, are more than an inch and a half long, of a pale yellowish colour, marked all over with dusky brown spots, nearly equal in size, but irregular. The flesh is of a delicious flavour.

The length of the water-rail is twelve inches, breadth fourteen, and weight three ounces and a half; the bill is slightly curved, one inch and three-quarters long, of a dusky black colour, but reddish at the base; irides red; the top of the head, hinder part of the neck, back, scapulars, coverts of the wings and tail, are black edged with dingy brown; the under parts, from the chin to the middle of the belly, ash colour; in some, supposed to be young birds, margined with white; the side feathers are beautifully crossed with black and white, and slightly tipped with reddish brown; the inner side of the thighs, the belly, and the vent, are pale brown, sometimes specked with blueish ash-colour; under tail coverts white; quills dusky; the tail consists of twelve short black feathers, edged and tipped with dusky red; some of those on the under side barred with black and white. The legs, which are placed far behind, dusky red; the toes long, and without any membrane to connect them.

The water-rail is found in Lancashire, and the northern parts of England, and is plentiful in the marshes of Sweden, Norway, Russia, and in the western part of Siberia, and throughout the continent of Europe; from whence, during the severity of winter, it migrates southward, even into Africa. Buffon says, they pass Malta in the spring and autumn; and in confirmation adds, that "the Viscount de Querheint saw a flight of them at the distance of fifty leagues from the coasts of Portugal, on the 17th of April, some of which were so fatigued that they suffered themselves to be caught by the hand."

THE GREBE.

To these birds, with long legs and finny toes, I will add one species more, with short legs and finny toes; I mean the grebe. The entire resemblance of this bird's appetites and manners to those of the web-footed class, might justly induce me to rank it among them; but as it resembles those above described, in the peculiar form of its toes, and bears some similitude in its manners also, I will for once sacrifice method to brevity. The grebe is much larger than either of the former, and its plumage white and black; it differs also entirely in the shortness of its legs, which are made for swimming, and not walking: in fact, they are from the knee upward hid in the belly of the bird, and have consequently very little motion. By this mark, and by the scolloped fringe of the toes, may this bird be easily distinguished from all others.

As they are thus, from the shortness of their wings, ill formed for flying, and from the uncommon shortness of their legs utterly unfitted for walking, they seldom leave the water, and chiefly frequent those broad shallow pools where their faculty of swimming can be turned to the greatest advantage, in fishing and seeking their prey.

They are chiefly, in this country, seen to frequent the meres of Shropshire and Cheshire, where they breed among reeds and flags, in a floating nest, kept steady by the weeds of the margin. The female is said to be a careful nurse of her young, being observed to feed them most assiduously with small eels; and when the little brood is tired, the mother will carry them either on her back or under her wings. This bird preys upon fish, and is almost perpetually diving. It does not show much more than the head above water, and is very difficult to be shot, as it

darts down on the appearance of the least danger. It is never seen on land; and though disturbed ever so often, will not leave that lake, where alone, by diving and swimming, it can find food and security. It is chiefly sought for the skin of its breast, the plumage of which is of a most beautiful silvery white, and as glossy as satin. This part is made into tippets; but the skins are out of season about February, losing their bright colour; and in breeding time their breasts are entirely bare.

WATER BIRDS.

The general conformation of the aquatic birds, exhibits fully the fitness of their destination for that element in or near which their lives are entirely spent. The body of the swimmers is arched beneath, and bulged like the hulk of a ship; and this figure was perhaps copied in the first construction of vessels: their neck, which rises on a projecting breast, represents the prow; their short tail, collected into a single bunch, serves as a rudder; their broad and palmated feet perform the office of oars; and their thick down glistening with oil (which entirely invests them) is impenetrable by humidity, and at the same time enables them to float more lightly on the surface of the water. The habits and economy of these birds correspond also with their organization: they never seem happy but in their appropriate element; they are averse to alight on the land; and the least roughness of the ground hurts their soles, which are softened by perpetual bathing. The water is to them the scene of pleasure and repose, where all their motions are performed with facility, and where their various evolutions are traced with elegance and grace. View the swans moving sweetly along, or sailing

majestically with expanded plumage upon the wave! they gaily sport: they dive and again emerge with gentle undulations, and soft energy; expressive of those sentiments which are the foundation of love.

The life of aquatic birds is, therefore, more peaceful and less laborious than that of most other tribes. Smaller force is required in swimming than flying; and the element which they inhabit perpetually yields them subsistence: they rather meet with their prey than search for it: and often a friendly wave conveys it within their reach, and they seize it without trouble or fatigue. Their dispositions also are more harmless, and their habits more pacific. Each species congregates through mutual attachment. They never attack their companions, nor destroy other birds; and, in this great and amicable nation, the strong seldom oppresses the weak.

The bill in this tribe (which comprehends swans and geese, as well as ducks) is strong, broad, flat, and generally furnished at the end with a kind of nail: the edges of the mandibles are marked with sharp serratures. The nostrils are small and oval. The tongue is broad, having the edges fringed near the base. The toes are four in number, three before and one behind; the middle one is the longest.

As swans are occasionally met with in this country during winter, (particularly in severe weather) I will just sketch their history.

THE WHISTLING SWAN.

The whistling or wild swan is somewhat smaller than the tame species. The bill is three inches long; yellowish white to the middle, but black at the end. The whole plumage is white, and the legs are black.

This species is an inhabitant of the northern regions; never appearing in England except in hard winters, when flocks of five or six are now and then seen. Martin says, that in the month of October, swans come in great numbers to Lingey, one of the Western isles, and continue till March, when they return northward to breed. A few continue in Mainland, one of the Orkneys, and breed in the little islands of the fresh-water lochs; but the principal part of them retire at the approach of spring. They are called the countryman's almanack; for their quitting the isle is said to presage good weather, and their arrival the reverse.

In Iceland these birds are an object of chase. In the month of August they lose their feathers to such a degree as not to be able to fly. The natives, at that season, resort in great numbers to the places where they most abound; and are accompanied with dogs, and active and strong horses, trained to the sport, and capable of passing nimbly over the boggy soil and marshes. The swans will run as fast as a tolerably fleet horse. The greater number are taken by the dogs; which are taught to seize them by the neck—a mode of attack that causes them to lose their balance, and become an easy prey.

Notwithstanding their size, these birds are so extremely swift on the wing, when in full feather, as to make them more difficult to shoot than almost any other; it being frequently necessary to aim ten or twelve feet before their bills. This, however, is only when they are flying before the wind in a brisk gale; at which time they seldom proceed at the rate of less than one hundred miles an hour: but when flying across the wind or against it, they are not able to make any great progress.

This species has several distinctions from that called by us the tame swan: but the most remarkable one is, the strange form of the windpipe; which falls into the chest, then turns back like a trumpet, and afterwards makes a second bend to join the lungs.

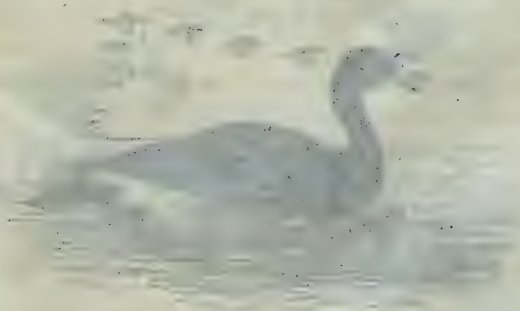
By this curious construction, the bird is enabled to utter a loud and shrill note. The other swan, on the contrary, is the most silent of all the feathered tribes; it can do nothing more than hiss, which it does on receiving any provocation.—The vocal swan emits its loud notes only when flying or calling: its sound is, *whoogh*, *whoogh*, very loud and shrill, but not disagreeable when heard high in the air and modulated by the winds. The Icelanders compare it to the notes of the violin; they hear it at the end of their long and gloomy winter, when the return of the swans announces also the return of summer; every note therefore must be melodious which presages a speedy thaw, and a release from their tedious confinement.

It was from this species alone that the ancients derived their fable of the swan's being endowed with the powers of melody. Embracing the Pythagorean doctrine, they made the body of this bird the mansion of the souls of departed poets; and then attributed to the birds the same faculty of harmony which they had thus possessed in a pre-existent state. And the vulgar, not distinguishing between sweetness of numbers and melody of voice, thought that real which was only intended figuratively.—The mute or tame swan never frequents the Padus; "and I am almost equally certain, (says Mr. Pennant) that it never was seen on the Cayster, in Lydia; each of which are celebrated by the poets for the great resort of swans. The Padus was styled *Oloriferus*, from the numbers of these birds which frequent its waters; and there are few of the poets, either Greek or Latin, who do not make them its inhabitants."

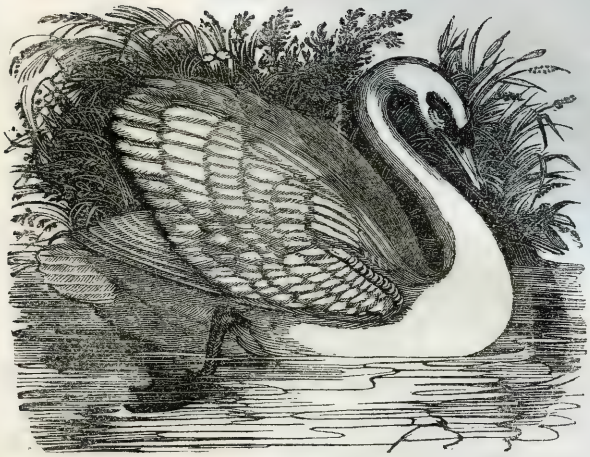
THE TAME OR MUTE SWAN.

The mute swans are found wild in Russia and Siberia; in England they are very common in a domestic state. They are

SWAN.



THE TAME OR MUTE SWAN.



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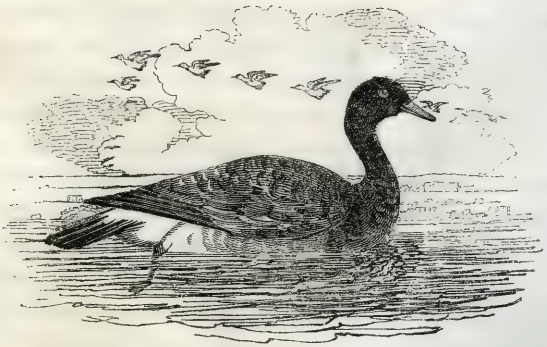
SWAN.



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WILD GOOSE.

seen in great plenty on the Thames; where they are esteemed royal property, and it is accounted felony to steal their eggs. In the reign of Edward IV. swans were held in such estimation, that "no person who did not possess a freehold of the clear yearly value of five marks" was permitted to keep any.

Nothing can exceed the beauty and elegance with which the swan rows itself along in the water, throwing itself into the proudest attitudes imaginable before the spectators; and there is not perhaps in all nature a more lively or striking image of dignity and grace. In the exhibition of its form, we see no broken or harsh lines, no constrained or abrupt motions, but the roundest contour and the easiest transitions imaginable: the eye wanders over every part with pleasure, and every part takes new grace with new postures.

> The swan, with arched neck
> Between her white wings mantling, proudly rows
> Her state with oary feet.

It exhibits, however, but an inelegant appearance on land.

The swan will swim faster than a man can walk. It is very strong, and at times extremely fierce: it has not unfrequently been known to throw down and trample upon youths of fifteen or sixteen years of age; and an old swan, we are told, is able to break the leg of a man with a single stroke of its wing.—A female, while in the act of sitting, observed a fox swimming towards her from the opposite shore: she instantly darted into the water, and, having kept him at bay for a considerable time with her wings, at last succeeded in drowning him; after which, in the sight of several persons, she returned in triumph. This circumstance took place at Pensy, in Buckinghamshire.

Swans are very long-lived, sometimes arriving at the great age of a hundred years. The flesh of the old birds is hard and ill-tasted; but that of the young, or cygnets, was formerly much esteemed.

The swan makes its nest of grass, among reeds; and in February begins to lay, depositing an egg every other day till there are six or eight. These occupy six weeks in hatching. Dr. Latham says, he knows two females that for three or four years past have agreed to associate; and have had each a brood yearly, bringing up together about eleven young: they sit by turns, and never quarrel.—When in danger, the old birds carry off the young ones on their backs.

THE WILD GOOSE.

Wild geese inhabit the fens of England; and are supposed not to migrate, as they do in many countries on the continent. They breed in Lincolnshire and Cambridgeshire: they have seven or eight young; which are sometimes taken, and are easily rendered tame.

They are often seen in flocks of from fifty to a hundred, flying at very great heights and seldom resting by day. Their cry is frequently heard while they are imperceptible from their distance above. Whether this be their note of mutual encouragement, or only the necessary consequence of respiration, seems somewhat doubtful; but they seldom exert it when they alight in their journeys. On the ground they always arrange themselves in a line, and seem to descend rather for rest than refreshment; for, having continued in this manner for an hour or two, one of them with a long loud note sounds a kind of signal to which the rest always punctually attend, and rising in a group they pursue their journey with alacrity. Their flight is conducted with vast regularity: they always proceed either in a line a-breast, or in two lines joining in an angle at the middle. In this order they generally take the lead by turns; the foremost falling back in the rear

when tired, and the next in station succeeding to his duty.—Their track is generally so high, that it is almost impossible to reach them with a fowling-piece; and even when this can be done, they file so equally, that one discharge very seldom kills more than a single bird.

They breed in the plains and marshes about Hudson's Bay in North America: in some years the young ones are taken in considerable numbers; and at this age they are easily tamed. It is, however, extremely singular, that they will never learn to eat corn, unless some of the old ones are taken along with them; which may be done when these are in a moulting state.

Our common tame goose is nothing more than this species in a state of domestication.

THE BERNACLE GOOSE.

The bill of this bird is very short and black, crossed with a flesh-coloured mark on each side. Part of the head, the chin, throat, under-parts, and upper tail-coverts, are white; and the rest of the head and neck, and the beginning of the back, are black. The thighs are mottled. Round the knee, the feathers are black; and the lower feathers of the back are the same, edged with white. The wing-coverts and scapulars are blue-grey; the ends black, fringed with white at the tip. The rump, tail, and legs, are black.

The Bernacle geese are not uncommon on many of the northern and western coasts of this kingdom, in winter; but they are scarce in the south, and only seen in inclement seasons. They leave our island in February, and retire northward to breed.

Of all the marvellous productions which ignorance, ever credulous, has so long substituted for the simple and truly wonderful

operations of nature, the most absurd, and yet not the least celebrated, is the assertion of the growth of these birds, in a kind of shell, called *lepas anatifera* (goose-bearing shell), on certain trees on the coasts of Scotland and the Orkneys, or on the rotten timbers of old ships.

Numerous writers have mentioned and credited these circumstances: one of these, Maier, who has written a treatise expressly on this bird, says, that it certainly originates from shells: and, what is still more wonderful, that he himself opened a hundred of the goosebearing shells in the Orkneys, and found in all of them the rudiments of the bird completely formed!

Of the GANNET, or SOLAND GOOSE.

The Gannet is of the size of a tame goose, but its wings much longer, being six feet over. The bill is six inches long, straight almost to the point, where it inclines down, and the sides are irregularly jagged, that it may hold its prey with greater security. It differs from the cormorant in size, being larger; and its colour, which is chiefly white; and by its having no nostrils, but in their place a long furrow that reaches almost to the end of the bill. From the corner of the mouth is a narrow slip of black bare skin, that extends to the hind part of the head; beneath this skin is another that, like the pouch of the pelican, is dilatable, and of size sufficient to contain five or six entire herrings, which in the breeding season it carries at once to its mate or its young.

These birds, which subsist entirely upon fish, chiefly resort to those uninhabited islands where their food is found in plenty, and men seldom come to disturb them. The islands to the north of Scotland, the Skelig islands off the coasts of Kerry in Ireland,

and those that lie in the north sea off Norway, abound with them. But it is on the Bass island, in the Frith of Edinburgh, where they are seen in the greatest abundance. "There is a small island," says the celebrated Hervey, "called the Bass, not more than a mile in circumference. The surface is almost wholly covered during the months of May and June with their nests, their eggs, and young. It is scarcely possible to walk without treading on them: the flocks of birds upon the wing, are so numerous, as to darken the air like a cloud; and their noise is such that one cannot without difficulty be heard by the person next to him. When one looks down upon the sea from the precipice, its whole surface seems covered with infinite numbers of birds of different kinds, swimming and pursuing their prey. If, in sailing round the island, one surveys its hanging cliffs, in every crag, or fissure of the broken rocks, may be seen innumerable birds, of various sorts and sizes, more than the stars of heaven, when viewed in a serene night. If they are viewed at a distance, either receding, or in their approach to the island, they seem, like one vast swarm of bees."

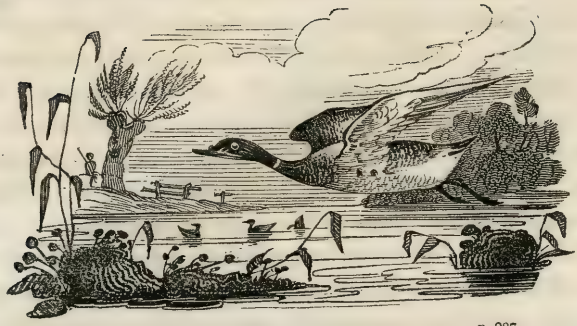
They are not less frequent upon the rocks of St Kilda. Martin assures us, that the inhabitants of that small island consume annually near twenty-three thousand young birds of this species, besides an amazing quantity of their eggs. On these they principally subsist throughout the year; and from the number of these visitants, make an estimate of their plenty for the season. They preserve both the eggs and fowls in small pyramidical stone buildings, covering them with turf-ashes, to prevent the evaporation of their moisture.

The gannet is a bird of passage. In winter it seeks the more southern coasts of Cornwall, hovering over the shoals of herrings and pilchards that then come down from the northern seas; its first appearance in the northern islands is in the beginning of spring, and it continues to breed till the end of summer. But,

in general, its motions are determined by the migrations of the immense shoals of herrings that come pouring down at that season through the British channel, and supply all Europe, as well as this bird, with their spoil. The gannet assiduously attends the shoal in their passage, keeps with them in their whole circuit round our island, and shares with our fishermen this exhaustless banquet. As it is strong on the wing, it never comes near the land; but is constant to its prey. Wherever the gannet is seen, it is sure to announce to the fishermen the arrival of the finny tribe: they then prepare their nets, and take the herrings by millions at a draught; while the gannet, who came to give the first information, comes, though an unbidden guest, and often snatches its prey from the fisherman even in his boat. While the fishing season continues, the gannets are busily employed; but when the pilchards disappear from our coasts, the gannet takes its leave to keep them company.

The cormorant has been remarked for the quickness of his sight; yet in this the gannet seems to exceed him. It is possessed of a transparent membrane under the eye-lid, with which it covers the whole eye at pleasure, without obscuring the sight in the smallest degree, This seems a necessary provision for the security of the eyes of so weighty a creature, whose method of taking its prey, like that of the cormorant, is by darting headlong down from a height of a hundred feet and more into the water to seize it.—These birds are sometimes taken at sea, by fastening a pilchard to a board, which they leave floating. The gannet instantly pounces down from above upon the board, and is killed or maimed by the shock of a body where it expected no resistance.

These birds breed but once a year, and lay but one egg, which being taken away, they lay another, if that is also taken, then a third; but never more for that season. Their egg is white, and rather less than that of the common goose, and their nest



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MALLARD.

p. 293.

POCHARD.

[illegible]

[illegible] annual profit by the sale.

THE WILD DUCK.

"Oft as the sun's last [illegible]
[illegible]
By some still lake I bend my way,
[illegible]
The mallard oft is seen;
[illegible]
[illegible]
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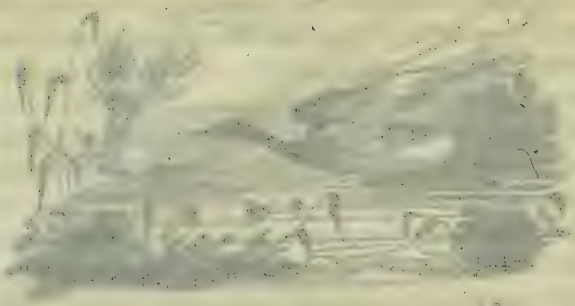

large, composed of such substances as are found floating on the surface of the sea. The young birds, during the first year, differ greatly in colour from the old ones; being of a dusky hue, speckled with numerous triangular white spots; and at that time resembling the colours of the speckled diver.

The Bass island, where they chiefly breed, belongs to one proprietor; so that care is taken never to fright away the birds when laying, or to shoot them upon the wing. By that means they are so confident as to alight and feed their young ones close beside you. They feed only upon fish, as was observed: yet the young gannet is counted a great dainty by the Scots, and is sold very dear; so that the lord of the islet makes a considerable annual profit by the sale.

THE WILD DUCK.

" Oft as the sun's last lingering ray
Gleams faintly o'er the fading scene,
By some still lake I bend my way,
Where, decked in plumage brown and gray,
The mallard oft is seen;
With glossy neck of emerald hue,
And wing barr'd with the deepest blue
That sapphire gives; and ruddy breast,
By the clear dimpling waters prest;
To sedgy covert swimming near,
Where on her nest of rushes made
His mate, in humbler garb arrayed,
Broods o'er her eggs with anxious care."

Wild ducks frequent the marshy places in many parts of this kingdom; but no where in greater plenty than in Lincolnshire,

where prodigious numbers are annually taken in the decoys. In only ten decoys in the neighbourhood of Wainfleet, as many as thirty-one thousand two hundred have been caught in one season.

Wild ducks are very artful birds. They do not always build their nest close to the water; but often at a good distance from it; in which case the female will take the young in her beak, or between her legs, to the water. They have been known sometimes to lay their eggs in a high tree, in a deserted magpie or crow's nest; and an instance has likewise been recorded of one being found at Etchingham, in Sussex, sitting upon nine eggs, in an oak, at the height of twenty-five feet from the ground: the eggs were supported by some small twigs, laid crossways.

THE TEAL

is one of the most delicate birds that graces our tables, and has been sold for seven, and frequently sells for five, shillings a couple.

The male teal weighs about twelve ounces, the female nine; the length is fourteen inches, the breadth twenty-three; the bill is a dark lead colour, tipped with black; irides pale hazel; from the bill to the hind part of the head is a broad bar of glossy changeable green, bounded on the under part with a cream-coloured white line, and edged on the upper side with pale brown; the rest of the head and the upper part of the neck are of a deep reddish chesnut; forepart of the neck and breast dusky white, marked with roundish black spots; belly white, middle of the vent black; the wing coverts brown, quills dusky; the exterior webs of the lesser marked with a vivid green spot; above that another of black, and edged with white; the legs dirty lead co-

lour. The female is of a brownish ash-colour; the lower part of the neck, and sides over the wing, brown, edged with white; the wing has a green spot like the male; the belly and vent both white.

It was at no very remote period supposed not to breed in England; but Mr. White, in his history of Selborne, has established the fact by some young teals being brought to him, which were taken in a pond on the verge of Wolmer forest. It is also known to breed in the mosses about Carlisle, as well as in Lancashire, and also in several parts of Cumberland. In France, where it stays throughout the year, it makes its nest in April, among the rushes on the edges of ponds, and which is composed of the tenderest stalks of the rushes, with the addition of the pith, and a quantity of feathers. The nest is of a large size, and placed on the surface of the water, so as to rise or fall with it; the eggs, to the number of from twelve to seventeen, are as large as those of a pigeon, of a dirty white, marked with small hazel spots: it is said to feed upon the grass and weeds which grow on the edges of waters it frequents; it will also eat the seeds of the rushes, and small fish; and the insects with which all stagnant waters are so abundantly stored. The teal is found to the north as high as Iceland, and is mentioned as inhabiting the Caspian sea to the south, and is every where deemed most excellent food.

Hearne says, like the mallard, they are found in considerable numbers near the sea coast at Hudson's Bay, but are more plentiful in the interior parts of the country, flying in such large flocks, that he has often killed twelve or fourteen, and has seen both English and Indians kill many more at one shot. At their first arrival they are poor, but generally esteemed good eating. He describes the teal as the most prolific of the water fowl at Hudson's Bay, having often seen the old ones swimming at the head of seventeen young, when not much larger than walnuts.

The teal remains in these parts so long as the season will permit; for in his passage from Cumberland House to York Fort, 1775, he, as well as his Indian companions, killed them in the rivers they passed through so late as the twentieth of October; they were then entirely covered with fat, delicately white, and might truly be called a luxury.

THE WIGEON

is in length twenty inches, and weight twenty-four ounces; bill narrow, of a blueish lead-colour, an inch and a half long, tip black; the top of the head is cream-colour, over the bill almost white; head and neck light bay; the plumage of the back, and sides under the wings, undulated with black and white lines; wing coverts brown, more or less mixed with, and in some birds almost white; the greater quill feathers dusky; the outermost webs of the middle feathers of a fine green; the tips black, the last striped with black and white; the two middle feathers of the tail are longer than the others, black and sharp pointed, the rest ash-coloured; the belly white; vent feathers black; legs dusky lead colour.

The head of the female is of a rusty brown, spotted with black; the back is of a deep brown, edged with a paler; the tips of the lesser quill feathers white; the belly white.

This species is common on most parts of the old continent; it is caught as low as Egypt, from the middle to the end of November, by nets in the marshes before the departure of the waters; it is also found at Aleppo, during the winter, in plenty; observed likewise in the Caspian sea and its neighbourhood; and in most parts of Europe, as far as Sweden. It abounds in England during the winter months, and is caught in the decoys;

it is said not to breed in France; nor is it certain they breed in this country. Both sexes are alike until the following spring after hatching, (this obtains in the pintail, the gadwall, and the shoveller, who are all grey and have no beautiful feathers when young,) when the males about March gain their full plumage, but lose it again at the end of July, and with it, in some measure, their voice, which they regain, and always use during their flight, in the winter season, and which is thought to be like the sound of a fife. Their flesh is much esteemed, and they are easily domesticated in places where there is much water, and are greatly admired for their beauty, sprightly look, and active frolicksome motions.

DIVERS,

as they are termed, consist of the scoter, scaup, golden eye, morillon, and others of the duck kind, and are not meant to particularly signify those birds to which naturalists have given the name of divers.

They vary much both in plumage and size, some weighing two pounds and a half, and others a pound less. In hard weather they frequent the shores and the tide rivers in great plenty, and are almost always at that season fat and in good condition; they do not fly in such large flocks as many of the duck species, and usually close to the surface of the water, and bear very hard blows from the shot without dropping, unless struck upon the head or wing.

The day seems to be spent by these birds between diving and flying to small distances over the water, which they do so low as often to dip their legs in it: they swallow their food whole, and soon digest the shells, which are found crumbled to powder among their excrements. They have been kept tame for some

time, and will feed on soaked bread. The flesh tastes fishy in the extreme, and from this cause is allowed by the Roman Catholics to be eaten on fast days and in lent; and, indeed, must be a sufficient mortification.

THE PINTAIL.

This bird is less than the wild duck; its length is twenty-eight inches, breadth thirty-eight, and its weight twenty-four ounces.

The form of the pintail is slender, and the neck long; bill long and black, on the sides blueish; the head, for an inch of the neck before, rusty purplish brown; nape dusky; forepart and sides of the neck white, a little mottled with dusky, the white rising upwards on each side at the back part like ribbands; part of the neck, and back, greyish white, finely barred with black; sides of the body the same, but paler; scapulars black, long, pointed, and margined with very pale cream-colour; wings pale dusky brown; across them, first a pale rufous bar, then a broad deep copper-coloured one, edged with black, and below this is a narrow one of white; the two middle tail feathers are black, and more than three inches longer than the rest, and end in a point; the exterior feathers of the tail are ash-coloured; the under parts of the body are white; vent black, the sides of it white; legs and feet small and lead-coloured.

The female is smaller; head and neck dusky, minutely streaked with brown, spotted with black; tail as in the male, but the two middle feathers not so far elongated.

This species is pretty common during winter in England, especially in severe weather, when it is very fat; the flesh is superior in its delicate flavour to any other wild fowl. In the month of February only these birds are found in great abundance

in Connaught, in Ireland. Upon the continent, in the northern parts of which it breeds, it is extremely numerous. It is abundant at the Lake Baikal, in Asia, and is often seen in large flocks on the sea-coasts of China, where it is caught in snares. In America it is not uncommon, being plentiful at New York, where it is called blue-bill; from thence found as far north as Hudson's Bay, where it is supposed to breed.

THE POCHARD.

This species, like the pintail, and some others, is common both to the old and new continent. With us it frequents the fens, as well as the coasts and tide rivers; in which last it is taken sometimes extremely fat in the severest weather. It is not ascertained whether they breed in England; but in France one has been shot in the month of July. Their food is small fish and shells: they are found south as far as Egypt, about Cairo, and in Carolina, during the winter. They have a hissing voice; their flight is more rapid than that of the wild duck, and the noise made by their wings is quite different; the flocks observe no particular shape in flying, as the duck, in triangles, but form a close body.

The pochard is about the size of a wigeon, weighs one pound twelve ounces; its length is nineteen inches; breadth, two feet and a half; the bill is broader than the wigeon's, of a deep lead-colour, with a black tip; irides, orange; the head and neck deep chesnut, with a small triangular spot of white under the centre of the lower mandible; the lower part of the neck and breast, and upper part of the back, dusky black; scapulars and wing coverts nearest the body of a greyish white, elegantly marked with narrow lines of black; the exterior wing coverts and

quills, dusky brown; secondary quill feathers regularly edged with a stripe of white; the belly, ash-coloured and brown; vent feathers, and coverts of tail, black; the tail consists of twelve short feathers, of a deep grey; the legs lead-coloured. The female has the head of a pale reddish brown; the breast is rather of a deeper colour; wing coverts and belly, cinereous; the back marked like that of the male.

These birds are eagerly bought by the London poulterers, under the name of dun birds, as they are deemed excellent eating: the greater part of what appear in the markets are caught in decoys.

WILD FOWL SHOOTING.

In fen shooting, the principal object is the wild duck; it is true, wigeon and teal are frequently met with; and at certain seasons all those birds which I have described under distinct heads; and as wild ducks generally breed in and frequent marshy places, the sportsman has, of course, to pursue his game in situations where wet feet seem unavoidable, unless the marshes will admit small boats, which renders the diversion of duck shooting much more pleasant. This, however, is not always the case; and some sportsmen attempt to preserve their legs and feet from the water by enormous boots,* which are very fatiguing as well as uncomfortable. I have uniformly found that wet feet are of little consequence while the sportsman keeps moving about; but the moment he arrives at any place where he intends to stop for a time, he should always put on a pair of dry stockings, and also a pair of dry shoes, with which he should take care to provide himself, if at any distance from home.

* In order to render them impervious or water-proof, see receipts at the end of the volume.

For the diversion of duck-shooting, a water spaniel, which has been taught to fetch and carry, will answer the purpose as well perhaps as any other kind of dog; though I use an old pointer bitch, which was never taught to fetch and carry, or to take the water, and yet a better animal for the purpose just mentioned cannot exist. The first day I took her into the field upon a shooting excursion, I happened to kill a bird as it flew across a pit. I had two other pointers with me, that had been shot over several seasons, that I could not, after every kind of entreaty, induce to enter the water; the young bitch, however, after looking at the bird very attentively, which was not quite dead, but fluttered occasionally, to my surprise, took the water without the least solicitation, and brought me the bird as carefully as possible; and ever since then she has fetched a bird or a duck out of the water without hesitation, and will swim across water when she supposes an object is to be attained; but she invariably turns away with contempt if a stick or a stone be thrown in with a view to induce her to fetch it.

The latter end of August is, perhaps, the best time for this diversion, as the young ones are then able to fly tolerably well, without, however, being capable of sustaining those long flights which carry them away from the sportsman completely: when the young ducks become very strong on the wing they are not easy to be approached, and are ever afterwards found the most suspicious animals in nature. These birds are fond of those situations where the margin of the water is deeply fringed with sedges and aquatic plants, and where, on the least alarm, they secret themselves from human observation. In beating for the game, as little noise as possible should be made, whilst the dog should never be allowed to go out of gun shot, unless, from particular circumstances, a greater extent be rendered indispensable. A sceptic might be induced to ask why the flavour of a wild duck is superior to that of a domestic duck? this fact arises, I appre-

hend, from their unlimited freedom. The same remark equally applies to the partridge, compared to the domestic fowl, and indeed to every animal in a state of nature, compared to the same or a similar kind reduced to obedience by man. It was formerly customary to have, in the fenny parts of the kingdom, particularly in Lincolnshire, an annual driving of the young ducks before they were able to fly. For this purpose numbers of people assembled, who beat over a great extent of water, and forced the birds into a net placed at the spot where the sport was to terminate. By this wholesale murderous plan, two hundred dozen have been taken at one place in a day. This method which bade fair to extirpate the breed of wild ducks altogether, has, however, I believe, been abandoned,—indeed it has been abolished by act of parliament.

In hard winters, good sport may be had in wild fowl shooting.*

* *The following Letter appeared in the Annals of Sporting, vol.* 1. *p.* 315, *addressed to the Editor ; and as it embraces my ideas on the subject, I therefore insert it.*

THE PERCUSSION GUN.—SEA FOWL SHOOTING.

Sir,—I am aware that the percussion gun has been already noticed in your excellent miscellany, (see No. I. p. 10, No. III. pp. 147—149,) but as there is a species of shooting to which this invention seems adapted in a greater degree, perhaps, than any other, and which you have not mentioned, I take the present opportunity of making it known to your readers. As my residence is at the mouth of a large river, I frequently take the diversion of shooting sea-fowl. The flight of the gull is slow, its wings are very expansive, and it consequently offers a good mark for the shooter: nevertheless its feathers are so hard, that it will carry away a considerable quantity of shot, unless it be struck in a vital part, or have its wings broken. It is not, however, a dainty for the table; it may be eaten when skinned, though, even in this case, it still retains a strong oily flavour. If, after the skin be stripped off, the bird is parboiled, and afterwards broiled, the unpleasant flavour will be much lessened. After all, the sea-gull is not nearly so unpalatable as the heron, which was formerly considered not only as a dainty, but is specially enumerated in

Lakes, with a marsh on one side, and a wood on the other, are seldom without vast quantities of wild fowl; and where a couple

the list of royal game. The gull, of which several varieties visit the shores of Great Britain, is the most common object that presents itself to the sportsman at the mouths of great rivers; yet there is a great variety of other aquatic game, which is frequently met with in the same situations, particularly ducks of various descriptions, which are more difficult of approach than the gull, and on this account are generally shot at from greater distances: here the percussion gun has a decided advantage over the common fowling-piece. Birds of the duck kind, as well as other sea-fowl, may be frequently seen at considerable distances, sitting on the beach, perhaps, or on the point of some projecting rock. If fired at from a flint gun, the instant they observe the flash in the pan, they take wing, and are thus frequently missed. The advantage of a percussion gun is, in this case, strikingly manifest, as there is scarcely any perceptible flash at the touch-hole, while the discharge is so much quicker, so very instantaneous, that the birds are struck before they can possibly get on the wing. At the same time, these shy birds may be reached at much greater distances than with the common flint lock, owing to the very superior force with which the shot is thrown from the percussion gun; a fact which I could not credit, till, from repeated experiment, it was no longer possible to entertain a doubt on the subject; the advantage of this mode of discharging the fowling-piece is still more evident when used for the purpose of shooting what are called divers. I was scarcely ever able to kill one of these birds with a flint lock; for though they will allow the shooter to approach within a short distance (as if conscious of their power to escape), yet the very instant they see the flash from the pan, they disappear, and are under the water in a moment: they are easily killed, however, with the percussion gun, for the reason already stated.

In the Isle of Man, puffins are met with in great abundance; they are fat, oily, and altogether very strongly flavoured and unpleasant to the taste, in defiance of every possible care and pains in cooking them; they deposit their eggs in holes of the ground, in the interior of the island, many of which are picked up by the inhabitants, and sold principally in the Liverpool market. The Isle of Man seems, indeed, the particular resort of sea-fowl; as, independently of the large quantity of puffins which frequent the interior, for the purpose of breeding, birds of

are seen at one time, this is a sufficient inducement to bring hundreds of others. These birds, which fly in the air, are often lured down from their heights by the loud voice of one from below. To this call, all the stragglers resort; and, in a week or a fortnight's time, a lake that before was quite naked, will be

the gull kind are in still greater abundance, if possible, and, in the breeding season, may be seen in myriads flying and screaming among the craggy rocks on the shore, on the ledges, and in the crevices of which they hatch and bring up their young. They are often very wantonly destroyed, and that too, sometimes, before the young brood are able to provide for themselves. Thoughtless sportsmen coast the island in boats for the purpose of shooting these birds; and the moment a gun is fired among the rocks, numbers of gulls immediately issue from the crevices, and hover over the shooter's head, within gun-shot, and the sportsman may continue to fire till he has either loaded the boat or tired himself.

The gull is a bold, familiar bird; and, when domesticated, is supposed to be of essential service in gardens, from the quantity of worms and grubs which it will devour. It will readily associate with the domestic duck, and soon becomes attached to the place where it is kept. A person at Douglas, in the Isle of Man, having reared a young gull, it became very familiar, and yet was placed under no restraint whatever. Its wings were suffered to grow, and it was allowed to follow its own inclination as to the extent of its flights. It became very well known in the neighbourhood, and no one molested it. At the approach of spring, however it disappeared, and was considered to be lost; but, after the lapse of a week or two, the gull again returned; and, after being fed, flew away. Nevertheless its visits were often repeated; and it was ultimately discovered that its absence had arisen from its being engaged in the propagation of its species. On the return of winter it again took up its old abode; and again absented itself in spring. This practice the bird has continued for some years, with this difference only, that its domestic visits, during the summer, are more frequent; but it never fails to shelter itself under human protection from the hardships and perils of winter. It has been frequently seen in company with its mate and their young, which, however, keep at a distance, whenever it approaches its semi-annual habitation.

black with water-fowl, that have left their Lapland retreats to keep company with our ducks, which continue with us during the whole year. Wild ducks breed in this country, in some places, to a considerable extent; but by far the greater portion of those seen during the winter season, come from the remote countries of the north.

Those birds of the duck kind which migrate to this country on the approach of winter, are seldom found so well tasted, or so fat as those that continue with us the year round: their flesh is often lean, and still oftener fishy, which flavour it has, probably, contracted in the journey, as their food in the lakes of Lapland, whence they descend, is generally of the insect kind. As they unite the power of flying with that of swimming, they have an opportunity of resting and feeding in their long journies across the ocean, and hence, perhaps, derive their fishy taste. They are generally observed to arrive in England in flocks, and as soon as they have chosen their situation, they retire to that part of the lake where they are inaccessible to the sportsman; they may be frequently seen huddled together, and are, for the most part, very noisy. They thus continue during the day; but on the approach of evening, they separate into small parties, and fly for the purpose of seeking food. This is, also, the case at the dawn of day, as the gray of the morn no sooner enables the ducks to distinguish objects, than they fly away to feed. They then approach the margin of the lake, the marshy ground, and particularly those stubbles which are situated near the edge of the water. On these occasions, they afford much diversion, or, at least, they are easily shot. Few sportsmen, however, properly speaking, give themselves the trouble to attend what is called the *flight*, that is, the flying of the ducks at morning and evening, as this sport is very different from the pursuit of the partridge. In the latter case, all is motion and activity; in the former, the shooter must approach the edge of the water, and, taking his

station in a convenient place, as much concealed as possible, either by sitting down, crouching, or otherwise, and there patiently wait the approach, or passing, of the game, sometimes, perhaps, for hours together, without having a single shot. Duck-shooting, therefore, or what is called *flighting*, is chiefly followed by the peasantry who reside on the borders of the marsh, many of whom earn a subsistence by it during the winter: these persons also catch a large quantity of snipes, &c. by means of small snares.

Indeed, the pursuit of wild ducks appears so much disregarded by sportsmen, that gentlemen, who are the proprietors of extensive marshes, seldom think of disturbing the rustics in their occupation of duck shooting. We do not say that the latter are allowed to approach the parks or pleasure-grounds of great men, where wild ducks are protected as ornamental to pieces of water; but, that such as are proprietors of marshes, in the general sense of the term, seldom prevent the rustics from pursuing their profitable amusement. It not unfrequently happens, however, that hares and rabbits come to feed, as well as ducks, in the dusk of the evening, particularly when the marsh happens to be situated at no great distance from strictly-preserved grounds, where game in general is found in great abundance. The best station that can be taken for shooting ducks is in a stubble, at a little distance from the water, where the ditches that surround the stubble empty themselves into the marsh, but, however, generally contain water sufficient to afford the ducks an opportunity of swimming up them. Here the ducks will resort in preference to any other situation, while the banks and the bushes afford facilities for concealment to the shooter that will be sought in vain in the open marsh. Under these circumstances, nothing is more common than for hares to visit the stubble just described, and they are then far more easily shot than ducks. On the approach of a hare, the shooter need only remain quiet; if he has any doubt

of killing her as she passes, let him give a slight whistle, when she will not only pause but raise herself on her haunches, for the purpose, it would appear, of listening: nothing can be more easy than to shoot her in such a situation. This circumstance is, by no means, generally known; and many gentlemen, I have no doubt, who are extremely rigorous in the preservation of their game, allow the duck-shooter to pursue his avocation, unmolested, with the most perfect indifference.

Vast numbers of ducks are taken in Picardy, in France, particularly on the river Somme, where it is customary to wait for the flocks passing over certain places; when the sportsman, having a wicker cage containing a quantity of tame birds, lets out one at a time, which alluring the passers-by within gun-shot, five or six may be sometimes killed at one shot. They are also taken by baited hooks, which the birds swallow while swimming on the water. The most curious mode, however, of taking wild-ducks is in India, and frequently practised on the river Ganges, where these birds are very numerous.—A person wades into the water up to his chin; and, having his head covered with an empty calabash, approaches the place where the ducks are swimming; the latter, not at all suspicious of an object of this kind, suffer the man freely to mix with the flock, when he seizes them by the legs, and pulls them under the water, one after another, till he has secured as many as he can attach to his belt; and returns as unsuspected by the remainder as when he first came amongst them. The number of calabashes which are constantly floating down the river render the ducks perfectly familiar to the sight of them—hence the reason why the duck taker is enabled so easily to approach them; but the method just described is not practicable either in very shallow or very deep water.

Wild-geese breed in the extensive fens of Lincolnshire and Cambridgeshire: the greater part, however, which are seen in this country retire to more northerly situations for the purpose of

propagation. They may be frequently seen in large flocks, flying at a very great height; and their cry is sometimes heard, while the birds themselves are imperceptible from their distance above. They are extremely difficult of approach. When on the ground, they appear to station a sort of sentinel, which, on the least suspicion, sounds a long loud note of alarm, on which the whole instantly take wing. Their flight appears to be conducted with great regularity; which not only excites the curiosity of the country people, but calls into action their inventive powers, and they thus make the geese, in their flight, describe all the letters of the alphabet, as well as all the figures used in the common rules of arithmetic. Their track is generally so high, that it is almost impossible to reach them with a fowling-piece: in long and severe frosts, however, they fly much lower, and at such times, afford good diversion to the sportsman. The common grey wild-goose forms an excellent dish for the table; but there is a larger kind that sometimes attracts the attention of the sportsman, but possesses a very strong and oily flavour.

As numbers of wild fowl frequent many parts of the sea-coast of this kingdom, so pursuing them may be regarded as a diversion by some: it appears to me, however, as a very illegitimate kind of sport at best:—well enough in the hands of that class of the community, to whom it affords a precarious subsistence; but by no means calculated for true sportsmen. Using "*staunchcon guns*," and "*shoving punts up to wigeon*" through the mud and ooze of the sea-shore, appear to me no way calculated to form sport for gentlemen; I shall therefore conclude the subject with the following quotation:—

"Mr. Gilpin has given an interesting description of the wild fowl shooting upon the Hampshire coast, and of the escape of a fowler, which will be here inserted; premising, that the danger in the night is upon all oozes nearly equal, if the return of the tide is not accurately observed:—'The caost between Hamp-

shire and the Isle of White is peculiar, consisting, at ebb tide, of vast muddy flats, covered with green sea weed: it affords the fowler an opportunity of practising arts, perhaps not elsewhere resorted to. Fowling and fishing, says Mr. G. are, indeed, on this coast commonly the employments of the same person. He, who in summer, with his line or net, plies the shores, when they are overflowed by the tide; in winter, with his gun, as evening draws on, runs up in his boat among the little creeks which the tide leaves in the mud lands, and lies in patient expectation of his prey. Sea fowl usually feed by night, when in all their multitudes they come down to graze on the savannahs of the shore. As the sonorous cloud advances (for their noise in the air resembles a pack of hounds in full cry), the attentive fowler listens which way they bend their course; perhaps he has the mortification to hear them alight at too great a distance for his gun (though of the longest barrel) to reach them; and if he cannot edge his boat round some winding creek, which it is not always in his power to do, he despairs of success that night; perhaps, however, he is more fortunate, and has the satisfaction to hear the airy noise approach nearer, till at length the host settles in some plain upon the edge of which his boat is moored: he now, as silently as possible, primes both his pieces anew (for he is generally double-armed) and listens with all his attention: it is so dark, that he can take no aim; for, if he could discern the birds, they would also see him; and, being extremely timorous, would seek some other pasture. Though they march with noise, they feed in silence; some indistinct noises, however, if the night be still, issue from so vast a concourse; he directs his piece, therefore, towards the sound, fires at a venture, and instantly catching up his other gun, discharges it where he supposes the flock to rise on the wing. His gains for the night are now decided, and he has only to gather his harvest; he immediately puts on his mud pattens (flat square pieces of board which the fowler

ties to his feet, that he may not sink into the ooze), ignorant yet of his success, and goes groping about in the dark in quest of his booty, picking up sometimes many, and perhaps not one. So hardly does the poor fowler earn a few shillings, exposed in an open boat, during a solitary winter night, to the weather as it comes, rain, hail, or snow, on a bleak coast, a league probably from the beach, and often liable, without great care, to be fixed in the mud, where he would become an inevitable prey to the returning tide. I have heard (continues Mr. G.) one of these poor fellows say, he never takes a dog with him in these expeditions, because no dog could bear the cold which he is obliged to suffer; and, after all, others frequently enjoy more from his labours than himself; for the tide often throws, next day, on different parts of the shore, many of the birds which he had killed, but could not find in the night.

"This hazardous occupation once led a fowler into singular distress; it happened too in the daytime, which shews still more forcibly the risk of such nocturnal expeditions.—Mounted on his mud-pattens, he was traversing one of these oozy plains in search of ducks, and, being intent only on his game, suddenly found the water, which had been accelerated by some peculiar circumstances affecting the tide, had made an alarming progress around him, and he found himself completely encircled: in this desperate situation an idea struck him as the only hope of safety; he retired to that part which seemed the highest from its being yet uncovered by water, and striking the barrel of his long gun deep into the ooze, he resolved to hold fast by it, as well for a support as a security against the waves, and to wait the ebbing of the tide: he had reason to believe a common tide would not have flowed above his middle; but, in the midst of his reasoning on the subject, the water had now reached him: it rippled over his feet, it gained his knees, his waist; button after button was swallowed up, until at length it advanced over his shoulders:

with a palpitating heart, he gave himself up for lost: still, however, he held fast by his anchor: his eye was eagerly in search of some boat which might accidentally be passing, but none appeared. A head upon the surface of the water, and that sometimes covered by a wave, was no object to be descryed from the land, at the distance of half a league; nor could he exert any sounds of distress that could be heard so far: while, as the exigence would allow, he was thus making up his mind to the terrors of certain destruction, his attention was called to a new object; he thought he saw the uppermost button of his coat begin to appear. No mariner floating on a wreck could behold approaching succour with greater transport than he felt at this transient view of his button; but the fluctuation of the water was such, and the turn of the tide so slow, that it was yet some time before he durst venture to assure himself that the button was fairly above the level of the flood; at length a second button appearing at intervals, his sensations may rather be conceived than described, and his joy gave him spirits and resolution to support his situation four or five hours longer, until the waters had fully retired.'

The danger of attacking the wild fowl in their small boats is considerably increased when there is much ice in the river, by which they sometimes get encircled, and then can only float with the current, and are often kept two or three tides before they can extricate themselves; and their punt is ill calculated to sustain pressure against its sides, which are not twenty inches high from the surface of the water; in this the punter by night drops down with the tide, or uses his paddles after the fowl; he knows their haunts, and takes every advantage of wind, tide, moon, &c. his gun, which carries as much as a little cannon, is laid with the muzzle over the stem of the punt, in a hitch, which regulates the line of aim: at the bottom of the punt he lies upon his belly, and gets as near the rout of fowl that are upon the water as pos-

sible; when within the range of his gun, he rattles with his feet against the bottom of his punt, and when the fowl begin to spring at this unexpected sound, at that moment he pulls the trigger, and cuts a lane through their ranks; he instantly follows the direction of his shot, and gathers up those that are killed, or just expiring, for very seldom he makes it answer to row after fowl only wounded; he then charges his gun, and drifts further down the river, in hopes of a second, third, and successive shots."

GAME LAWS.

Under this head, I shall first consider

TRESPASS.—Which is the entry by one person upon the ground of another, without the owner's consent; and even though no real injury may be sustained by the owner of the land, it is a trespass, nevertheless.—It is a *wilful* trespass where the person has been warned not to come upon the ground; and *malicious*, where the intention to distress or injure the owner is evident.

It is enacted, by 43 Eliz. and 22 and 23 Car. 2. c. 9. that where the jury, who try an action for trespass, give less damages than 40s. the plaintiff shall be allowed 40s. costs only, unless (8 and 9 Will. and Mary, c. 11.) it shall appear that the trespass was wilful and malicious, and is so certified to be by the judge; in which case the plaintiff shall recover full costs.

However, 4 and 5 Will. and Mary, c. 23. s. 10, enacts, that every inferior tradesman, apprentice, or other dissolute person, may be sued for going upon another man's ground to hunt, &c. though he do no injury; and if found guilty, shall pay full costs of suit. The reason for which, is to discourage the temptation

which might otherwise be afforded them of neglecting their proper business in pursuit of sport, to the injury of themselves and families.

Who are "*Inferior Tradesmen*," has not been legally defined. Upon the prosecution of a huntsman for being out with his master's hounds, it was decided that the huntsman did not come within the meaning of the statute as an "inferior tradesman" or "dissolute person." In the case *Buxton* v. *Mingay*, the question was, whether the defendant, a surgeon and apothecary, not qualified to kill game, came within the description of an inferior tradesman. For the plaintiff, it was said, that amongst tradesmen no line can be drawn with respect to who are superior and who are inferior; but that the distinction which the legislature intended, was between those who were qualified and those that were not; so that in this respect every tradesman is inferior who is not qualified. For the defendant, it was urged, that every case of this kind ought to be determined on its particular circumstances and left to the jury, whether the defendant is an inferior tradesman or dissolute person within the statute. The court being equally divided, no rule was made.

A lord of a manor, unless he have a right of free-warren, (which is very seldom the case) is as liable as any other man to the penalties just enumerated; or, in other words, he cannot sport upon the lands of another, even in his own manor, without permission from the owner or occupier of the land: a tenant can notice his landlord off the estate which he occupies, unless a clause in the lease (which is generally the case) gives the landlord the privilege to sport. If a manor is to be strictly preserved, every occupier of land throughout such manor should sign a paper drawn up in the following manner:—

SIR,

I do hereby give you notice, and require you not to enter, or cause or procure to be entered, any of my closes, lands,

or premises, situate and being in the parish of ——, or elsewhere, in the county of ——, with horses, dogs, or otherwise, in order to beat for, follow, or pursue, any game, or for any other purpose whatsoever; and in case you do not as yet know the local situation of such, my said closes, lands, and premises, I hereby give you notice, that the same will be pointed out and shewn to you, upon reasonable application at my dwelling-house, situate at ——. And I do hereby further give you notice, that in case, after your being served with this notice, you shall commit any trespass upon any part of my said closes, lands, or premises, you will not only be proceeded against as a wilful and malicious trespasser, pursuant to the statutes in that case made and provided, but will also be otherwise prosecuted for such offence, according to law. Dated this —— day of ——, in the year of our Lord ——.

To Mr. ——.

The oral notice of either gamekeeper or lord of a manor is insufficient; but is deemed legal from the occupier of the land where the sportsman happens to be found. In all other cases, a written notice, similar to the above sketch, and signed by all the occupiers of the land in the manor, must be given to the trespasser.—A gamekeeper cannot demand the name of a sportsman, or a sight of his certificate, without first producing his own deputation and certificate; a gentleman must first produce his own certificate, before he is authorised to see the certificate of another person. In default of certificate, the name and address must be given; and any fictitious name adopted, or evasion resorted to, subjects the party to a penalty of 20*l.*

It is supposed by some, that a person may continue to sport on the same manor all day, though he has been warned off in the morning. This cannot be the case—he may go through the manor to some road, and kill what game comes in his way; but, should he persevere in continuing his diversion for any unnecessary length of time, he becomes a *wilful* trespasser.

QUALIFICATION.—The first time we meet with any defined qualification, is in the time of Richard II. when 40s. per annum was deemed sufficient. In the reign of James I. it rose to ten pounds; and finally, in that of Charles II. to one hundred pounds per annum. Although these several statutes are in force, yet it is the last only which is resorted to at the present time.

Twenty-two and 23 Charles II. c. 25, requires a person to be possessed of an estate of inheritance of the clear yearly value of 100*l.* per annum, either in his own or his wife's right; or leasehold property for a term of ninety-nine years, or for life, of the clear yearly value of 150*l.* Also the son and heir of an esquire, or other persons of higher degree, without any estate whatever, are qualified according to this act.

By the statute of 5 Anne, if a person, not having 100*l.* per annum, shall *keep* dogs or engines to destroy game, he shall forfeit 5*l.**; but if such person have not 40s. a year, he may, upon the statute of Richard II. be punished with a year's imprisonment; and so of the rest: but no person can be prosecuted upon more than one act for one offence. So that the mere *keeping* is penal: keeping a gun, however, is lawful, unless it can be proved that it was kept for the purpose of destroying game.

Esquires, in the eye of the law, are, the four esquires of the king's body; the younger sons of noblemen, and their heirs male for ever; the eldest sons of baronets, or knights of the bath, and knights bachelors, and their heirs male in the right line. A justice of peace is also an esquire for the time he is in commission. Persons of higher degree than esquires are colonels, serjeants at law, and doctors in the three learned professions. (However, according to Lord Mansfield, a doctor of the

* Goods distrained for penalties under the game laws are not repleviable.

Scotch universities is not to be considered as such, in England at least.) But, strange as it may seem, neither esquires, nor any of these, are qualified without the requisite estate, and yet their sons are qualified without any estate whatever!—*Burn's Inst. Ar. Game.*

Captains in the navy and regular army, I believe, are esquires; but this honorary distinction does not extend to captains of volunteers or local militia. See 1 *Taunton's Rep.* in *C. P.* 510.

Or for term of life.—It was doubted upon these words, in what order of qualification an ecclesiastical living should be ranked, which a man holds not in his own or his wife's right, but in the right of his church. It is allowed to be a life estate, and ought therefore to be coupled with leasehold, whereof 150*l.* a year is necessary to constitute a qualification. So it was determined in the case of Lowndes, esq. *v.* Lewis, clerk, by Lord Mansfield, Mr. J. Ashhurst, and Mr. J. Buller, against the opinion of Mr. J. Willes, that a life estate of less than 150*l.* per annum, is not a qualification to kill game—*Cald. Cas.* 188.

Keepers of forests, parks, chases, or warrens, being stocked with deer or conies, are qualified with respect to the said forests, parks, &c.

Any unqualified person may keep game dogs for one that is qualified; for so it has been lately determined.

By c. 25, s. 2. of 22 and 23 Charles II. it is allowed for gamekeepers, or any others persons, by warrant of a justice of the peace, to search the houses, or other places, of persons prohibited by this act to keep dogs or engines, as aforesaid; and, in case of finding any, may destroy or convert them to the use of the lord of the manor; *but the search must be made in the day-time.*

By 4 and 5 W. and M. c. 23, s. 10. every *inferior tradesman,* apprentice, or other dissolute person, found hunting, hawking, fishing, or fowling, may be sued for wilful trespass on com-

ing on any person's ground, and, if found guilty, to pay the full costs of suit; but if such persons are in company with their master, and he duly qualified, they are not liable.

In the case of Peshall *v.* Layton, M. 29 G. 3. L. Kenyon, Ch. J. said, that where several unqualified persons offended by going out together and killing a hare, only one penalty can be recovered, though the prosecutor has his election which he will sue.—2 T. R. 722.

Shall forfeit 5l.—T. 10 An. Q. *v.* Matthews. On a conviction, exception was taken that the person was charged with so many *5l.*'s as he had killed hares in the same day. And the court was of opinion, that the offence for which the statute gave the forfeiture, was the keeping dogs and engines, and not killing hares. If a man not qualified go hunting, and kill never so many hares on the same day, he would forfeit but one *5l.* for it is but one offence; but if a man keep dogs, and go hunting several days, and kill hares, if it were thus laid, that he, such a day, kept dogs and killed, and then again such a day, by laying it thus severally, the offence is severed, and he shall forfeit *5l.* for each offence.—10 *Mod.* 26.

Unqualified persons may accompany a qualified man; they must not shoot, but may assist in beating the ground.

CERTIFICATE.—The first act relative to game certificates was passed in 25th of Geo. III. This statute (c. 50. s. 8.) levies a penalty of twenty pounds upon persons pursuing or taking game without a certificate; and states further, that the certificate hereby directed to be taken out shall not authorise any person to pursue or take game, unless duly qualified by estate or otherwise. Also, the party thus offending to be liable to the same penalties as are inflicted by former acts now in force.

The list of game includes the following:—*heron, pheasant, partridge, heath-cock, moor-game, mallard, duck, wigeon, teal, woodcock, snipe, quail, and landrail; as also hares and rabbits.*

This act was passed in the 48th of Geo. III. and inflicts the before-mentioned penalties for the pursuit or destruction of any of the animals just mentioned, by persons not duly authorised.

There is an exception, however, in respect to woodcocks and snipes taken in nets or springes; as also in regard to conies taken in warrens or inclosed grounds, by the proprietors of such places; or by any persons in lands in his or her occupation, either by himself or herself, or by his or her direction or command.

By this act also, a different method of issuing certificates was ordered to be adopted. Instead of applying to the clerk of the county, the sportsman must pay three pounds fourteen shillings and sixpence into the hands of the collector of the duties for the parish, ward, or place where he resides; the collector gives a receipt for the money, and on carrying this receipt to the clerk of the commissioners, acting for the district, a certificate will be given in exchange for the collector's receipt, without any further fee.

This act likewise (s. 7.) provides that, should a gamekeeper quit his master or mistress before the expiration of the season for which his certificate has been obtained, the same certificate will be sufficient for the successor of such gamekeeper, provided the name of such newly appointed person is indorsed upon it, which the clerk to the commissioners is to do, upon application for that purpose, free of expense. Also, land-holders, legally authorised to appoint gamekeepers, may grant deputations to the servants of other persons for that purpose, whose certificates may be renewed in the same way.

Further, by this act, s. 10, the sportsman, when using dog, gun, &c. must produce his certificate, if demanded, to the assessor, collector, commissioner, or gamekeeper, inspector, or surveyor, or other person assessed as aforesaid; or the owner, landlord, lessee, or occupier of the land upon which he may be found

sporting; and must allow the persons so demanding the same, not only to read, but to take a copy of, his certificate, if they think proper. But in case the sportsman has not his certificate about him, he must declare to the person demanding, his christian and surname, and place of abode; as also the parish or place where the certificate has been issued. A refusal or evasion, by fictitious name or otherwise, subjects the offending party to the penalty of 20*l.*

By this act too (s. 12.) a person sporting without a certificate, is liable to pay the duty for the year, and forfeit the sum of twenty pounds over and above, which is to be assessed by way of surcharge, in the district where the offence shall be committed. And finally (s. 11.) the commissioners are to cause the names and residences of the persons taking out certificates to be published annually in the newspapers circulated in each county.

N. B. The royal family are exempt from the provisions of this act.

Laws to Prevent the Destruction of Winged Game, &c. at Improper Seasons of the Year, Christmas Day, Sunday, &c.—It is provided by 9 Anne, c. 25, s. 4, that if any person shall, with hays, tunnels, or other nets, destroy, in the *moulting season*, (that is, between the 1st of June and the 1st of October,) any wild duck, teal, wigeon, or other water fowl, such persons shall forfeit five shillings, and the nets, &c. used in taking such fowl to be destroyed.

The proper season for shooting grouse (called *red game)* is from the 12th of August to the 10th of December; that for heath fowls (commonly called *black game)* begins on the 20th of August, and ends on the 10th of December; for bustards the season commences on the 1st of September, and ends on the 1st of March. The penalty for destroying any of these birds, (by the 13th of Geo. III. c. 55, s. 2,) buying, or selling, or carrying, or even having in possession, at any other season of the

year, is any sum not exceeding twenty, nor less than ten pounds, for the first offence; for every subsequent offence, a sum not exceeding thirty pounds, nor less than twenty. One half the penalty to be paid to the informer, and the other to the poor of the parish; to be levied by distress, if not immediately paid: and in case no distress is to be had, the offender to be committed to the house of correction, and kept to hard labour for any period not exceeding six months, nor less than three. However, by the 43rd of Geo. III. c. 112, the season for *black game* in the New Forest, Hampshire, does not begin till the 1st of September.

Also (by 4 and 5 Will. and Mary, c. 22, s. 11,) no person is allowed, between the 2nd of February and the 24th of June, to burn any gaig, ling, heath, furze, gorse, or fern, on any mountains, heaths, or other places where moor game and heath fowls breed, upon pain of being committed to the house of correction for any time not exceeding one month, nor less than ten days.

The season for shooting *partridges* begins on the 1st of September, and ends on the 1st of February; that for *pheasants* commences on the 1st of October, and ends at the same time as partridge shooting: the penalty attached to the taking, destroying, carrying, or having in possession, at any other period of the year, any of these birds, is five pounds for every pheasant or partridge; unless, however, such pheasant or partridge was taken at the proper season of the year, and kept in a mew or breeding place. The whole of this penalty to be paid to the informer with full costs of suit.

As to woodcocks, snipes, quails, landrails, hares, and rabbits, there is no specified time for their destruction, though snipes as well as quails breed in this country. In fact, it does not appear that either woodcocks, snipes, or rabbits, are that species of game, the bare possession of which, in an unqualified person, is penal, unless it can be proved that the two first were *shot*, and the last caught in a place other than a warren, &c.

By the 35th, therefore, of Geo. III. c. 80, s. 1, it is provided, that if any person shall take or destroy any hare, pheasant, partridge, moor-game, or heath-game, between seven o'clock at night and six in the morning, from the 12th of October till the 12th of February; and between nine o'clock at night and four in the morning, from the 12th of February to the 12th of October; such person, upon conviction before a justice of the peace, upon the oath of one witness, shall forfeit a sum not exceeding twenty pounds, nor less than ten, for the first offence; for every subsequent offence, a sum not exceeding thirty pounds, nor less than twenty—half to the informer, the other half to the poor. Also, should a person be found *using* a dog, net, &c. with an *intent* to destroy the game above mentioned, at the specified prohibited times, he will be liable to the same penalties.

By s. 6 also of the same act, a person who shall take or destroy any of the last-mentioned animals on a Sunday, or on Christmas day (in the day-time) or *use* a dog, &c. for that purpose, will be liable to the same penalties as are inflicted for destroying game in the night, and to be convicted in the same manner.

Thirty-nine and 40 of Geo. III. c. 56, enacts, that if two or more persons be found in a forest, park, wood, plantation, field, meadow, or other open or enclosed ground, between the hours of eight o'clock at night and six in the morning, from the 1st day of October to the 1st of February; or between the hours of ten at night and four in the morning, from the 1st day of February to the 1st of October, having any gun, &c. for the purpose and with intent to take or destroy, any hare, pheasant, partridge, moor or heath game; or if any person shall be found with fire-arms or other weapons, aiding or assisting any such person as aforesaid; it shall be lawful for the owner of the place where any such persons are found, or his servants, or in fact any per-

son, to apprehend such offenders, and deliver them into the custody of a peace officer, by whom they are to be conveyed before a justice of the peace, who is authorized to commit such offenders to the house of correction, there to suffer such punishments as are directed to be inflicted on rogues and vagabonds. Or in case such offenders make their escape, any justice, on the oath of one credible witness, may issue his warrant for their apprehension; and such persons, upon being apprehended, may be committed, on the oath of one credible witness, the same as though he had been taken on the spot.

Free warren is a franchise, erected for the preservation or custody (which the word signifies) of beasts and fowls of warren; which, being *ferœ naturœ*, every one had a natural right to kill as he could: but, upon the introduction of the forest laws, at the period of the Norman Conquest, these animals being looked upon as royal game and the sole property of our savage monarchs, this franchise of free warren was invented to protect them; by giving the grantee a sole and exclusive power of killing such game so far as his warren extended, on condition of his preventing other persons. A man, therefore, that has the franchise of a warren, is in reality no more than a royal gamekeeper; but no man, not even a lord of a manor, could by common law justify sporting on another's soil, unless he had the liberty of free warren. This franchise is almost fallen into disregard, since the new statutes for preserving the game; the name being now chiefly preserved in grounds that are set apart for breeding hares and rabbits. There are many instances of keen sportsmen in ancient times, who have sold their estates, and reserved the free-warren, or right of killing game, to themselves; by which means it comes to pass, that a man and his heirs have sometimes free warren over another's ground.

Buying and Selling Game.—It is enacted by the 5th of Anne, c. 14, s. 2, that if any higler, chapman, carrier, inn-

keeper, victualler, or alehouse-keeper, shall have in his possession any hare, pheasant, partridge, moor or heath-game (unless where such carrier is transporting such game for a qualified person) or shall buy, sell, or expose for sale, any such hare, &c. such offending person shall forfeit the sum of five pounds: and the oath of one witness shall be a sufficient conviction—half the penalty to the informer, and the other half to the poor of the parish: to be distressed for, if necessary; and in default thereof, the offender to be committed to the house of correction for three months; and for the second and every subsequent offence four months.

Also, s. 3 of the same act allows any person buying and selling game, to inform against any other person so offending, and to be allowed the same benefit as any other informer; and himself discharged from the above-mentioned penalties.

By s. 4, the lord of the manor, or justice of the peace, may take to his own use any game which shall be found in the custody or possession of any unqualified person; unless protected by some qualified person.

If any person, whether qualified or unqualified, shall sell or expose for sale any hare, pheasant, partridge, moor or heath game; every such person shall be liable to the penalty of five pounds for every hare, &c. on the oath of one witness—half to the informer, and half to the poor of the parish where the offence was committed: to be levied by distress, if necessary; and for want thereof, the offender to be committed to the house of correction for three months for the first, and four months for every subsequent offence. Or, if any of the above-mentioned game be found in the house, shop, or possession of any poulterer, salesman, fishmonger, cook, or pastry-cook, the same shall be deemed an exposing thereof to sale.

The last statute upon this subject cuts both ways with a venge-

ance:—By 58 Geo. III. c. 75, the *buyer* (whether qualified or not) of any partridge or any other description of game, is liable to a penalty of five pounds for every head of game he may purchase; and may be convicted on the oath of the very person who sold him the game; who, for his information, will not only be borne harmless, but entitled, without further trouble, to half the penalty; and is at liberty, if he thinks proper, to sue for and recover the whole.

Tracing Hares in the Snow, &c.—An old statute (14 and 15 Henry VIII. c. 10) inflicts a penalty of six shillings and eight-pence for tracing and killing a hare in the snow. The 1st of James I. c. 27, inflicts three months' imprisonment on the offender for tracing or *coursing* a hare in the snow; unless the offending party pay to the churchwardens, for the use of the poor, twenty shillings for every hare; or within one month after commitment, become bound with two sureties, in twenty pounds each, not to offend again in like manner. Two witnesses are necessary in this case, as also two justices of the peace.

The same penalty, by the same act, is also inflicted for taking hares with hare-pipes, snares, or any other engines: two witnesses are necessary to convict the offender before two justices.

Also, by the 22nd and 23d of Charles II. c. 25, if any person be found using or setting any snare or other engine for the purpose of taking hares, he shall make the injured party such recompence as the justice shall appoint, and pay down immediately, for the use of the poor, a sum not exceeding ten shillings; otherwise to be committed to the house of correction for a time not exceeding one month. In this case, the oath of one witness before one justice is sufficient; but it must be done within one month after the offence is committed.

Appointment of a Gamekeeper, and his Authority.—By the 22nd and 23rd of Charles II. c. 25, s. 2, lords

of manors and other royalties, *not under the degree of an esquire,** may, by writing under their hands and seals, appoint gamekeepers within their manors and royalties, who then become authorized to seize all guns, greyhounds, setting dogs, or any other dogs, for killing hares or rabbits; as well as snares, nets, &c. for the purpose of taking hares, partridges, or other game, which may be found within their respective manors, used by unqualified persons.—This act, however, does not authorize gamekeepers to kill game, but merely to preserve it.

The 5th of Anne, c. 14, s. 4, however, enables lords of manors to appoint a person to kill game. But, if he sell game, he is liable, on the oath of one witness, to be sent to the house of correction for three months, and kept to hard labour.

Twenty-five Geo. III. c. 5, s. 2, enacts that every deputation of a gamekeeper granted to any person in England or Wales, shall be registered with the clerk of the peace in the county where the manor lies for which such person is appointed. A neglect of this, as also of taking out a certificate of such registry, incurs the penalty of twenty pounds. But gamekeepers to the royal family are exempt from the operations of this act.

The following is the form of a gamekeeper's deputation or appointment:—

"Know all men by these presents, that I, ————, of ———, in the county of ———, esquire, lord of the manor of ———, in the same county, have nominated, deputed, authorized, and appointed, and by these presents do nominate, depute, authorize, and appoint, ————, of ———, to be gamekeeper of and within my said manor of ———, with full power, license, and authority to pursue, take, and kill any hare, pheasant, partridge, or other game whatsoever, in and upon my

* Willes, J. in the case of Jones v. Smart, said, that a lord of a manor is not an esquire by virtue of his manor or royalty, though in common acceptation he may be considered as such.

said manor of ———, for my sole and immediate use and benefit: and also to take and seize all such guns, bows, greyhounds, setting-dogs, lurchers, or other dogs, ferrets, trammels, low-bells, hays, or other nets, harepipes, snares, or other engines, for the pursuing, taking, or killing of hares, rabbits, pheasants, partridges, or other game, as shall be used within the precincts of my said manor, by any person or persons, who by law are prohibited to keep or use the same. In witness whereof, I have hereunto set my hand and seal this 24th day of July, 1819.

" ———." (Seal)

" Sealed and delivered in the presence of

———, of ———, aforesaid."

If a gamekeeper be qualified in his own right, he has no occasion to enter his deputation. But a gamekeeper is not authorized, by any statute, to seize game which he may find in the possession of poachers, even on his manor, though it is lawful for him to take their dogs, nets, or other implements. Also, gamekeepers, if found killing game off the manors for which they were appointed, are liable to the same penalties as unqualified persons. The only difference in this case between them is, that a gamekeeper's gun and dogs are not seizable, while those of an unqualified person may be taken.

Vere v. *Lord Cawdor* and *King*. *M.* 50 Geo. III. In this, which was an action of trespass for shooting and killing a dog of the plaintiff, there was a plea of not guilty, and special plea that Cawdor was lord of the manor, and the defendant gamekeeper; that the dog was running after, chasing, and hunting divers hares, for the preservation of which the gamekeeper shot and killed the said dog.

To this plea there was a demurrer: and after argument, Lord Ellenborough, J. C. said, the question is, whether the plaintiff's dog incurred the penalty of death for running after a hare in another's ground? And if there be any precedent of that sort,

which outrages all reason and sense, it is of no authority to govern other cases. There is no question here as to the right of the game. The gamekeeper had no right to kill the plaintiff's dog for following it. The plea does not even state that the hare was put in peril, so as to induce any necessity for killing the dog in order to save the hare.—Judgment for the plaintiff. 11 E. R. 568.

By 48 Geo. III. c. 93, s. 2, lords of manors are enabled to appoint and depute any person as gamekeeper whatever, whether acting in that capacity to any other person or not, or the servant of any other person, qualified or unqualified, to kill game within a specified manor for his own use, or for the use of any other person or persons to be specified in such appointment or deputation, whether qualified or not; nor need such person be entered or paid for as the male servant of the lord or lady who gives the deputation.

Sect. 3 of this act gives the same authority as a regular gamekeeper.

PIGEONS.—Any person who shall shoot, or destroy in any manner, any pigeon, shall on conviction before two justices, on the oath of two witnesses, be committed to gaol for three months; or pay for the use of the poor twenty shillings for every pigeon; or within one month after commitment find sureties not to offend again.

However, by 2 Geo. II. c. 29, one witness and one justice are sufficient: to forfeit twenty shillings to the person who prosecutes, or be committed to the house of correction and kept to hard labour for any term not exceeding three calendar months or less than one. Notwithstanding, a man has a right to shoot any pigeons he may find destroying his corn.

A very severe statute was passed in 1816, by which it is enacted, that if any person or persons shall unlawfully enter into,

or be unlawfully found in, any forest, chase, park, wood, plantation, close, or other open or inclosed ground, in the night time, that is to say, between the hours of eight o'clock at night and seven in the morning from the 1st day of October to the 1st day of March, or between the hours of ten at night and four in the morning from the 1st day of March to the 1st day of October, in each and every year, having any gun, net, engine, or other instrument, for the purpose and with the intent to destroy, take, or kill, game, every person so offending, being thereof lawfully convicted, shall be adjudged guilty of a misdemeanour, and sentenced to transportation for any term not exceeding seven years, or shall receive such other punishment as may by law be inflicted on persons guilty of misdemeanours, and as the court before which such offenders may be tried and convicted shall adjudge.

MUTINY ACT.—According to this, if any officer or soldier shall kill any kind of game, poultry, or fish, and be convicted on the oath of one witness before a justice, an officer* so offending shall forfeit five pounds to the poor of the parish; but if a soldier be thus convicted, the commander-in-chief of the place shall pay twenty shillings for every such offence; and if not paid within two days after demand by the constable or overseer of the poor, he shall forfeit his commission.

Some alteration will no doubt take place in the game laws at no distant period.

* This of course is supposing such officer not to be qualified.

DOG LAWS.

It is a nuisance for any ferocious or mischievous dog to be at large and unmuzzled, and the owner may be indicted.

An action may be maintained against a man for keeping a dog *accustomed* to bite sheep ;—if it can be proved that he has ever bitten one before, it is deemed a sufficient proof of his being *accustomed* so to do. Should the dog of one man fall upon that of another, he is justified in using violence, even to the death of the offending dog, if it appear probable that he could not otherwise rescue his own dog. If any person take up a lost dog, he must restore him on being demanded by the owner, or an action in trover may be maintained against him, in which he will be liable to damages and costs.

The 10th of Geo. III. c. 18. enacts, that if any person shall steal any dog, or dogs, of any kind whatsoever, from the owner, or from any person entrusted by the owner with such dog or dogs, or shall sell, buy, receive, harbour, detain, or keep any such dog or dogs, knowing the same to be stolen, every such offender, convicted on the oath of one witness, before two justices, shall, for the first offence, forfeit a sum not exceeding thirty, nor less than twenty, pounds, at the discretion of such two justices ; together also with the charges previous to, and attending, such conviction ; to be ascertained by the said justices. In case such penalty be not immediately paid, such justices may commit the offender to the house of correction, for a time not exceeding twelve, nor less than six, calendar months ; or till the penalty be paid. For a second offence, the offender shall forfeit a sum not exceeding fifty, nor less than thirty, pounds ; together also with the charges.

ADDENDA.

TECHNICAL TERMS.

A brace of black game.
A leash of black game.
A pack of black game.
To raise a black cock or pack.
A brace of grouse.
A leash of grouse.
A brood or pack of grouse.
To raise grouse.
A brace and a half of partridges.
A brace of partridges.
A covey of partridges.
To spring partridges.
A brace of quail.
A brace and a half of quail.
A bevey of quail.
To raise quails.
A brace of pheasants.
A leash of pheasants.
A ni (or nid) or brood of pheasants.
To push or spring a pheasant.
A couple of woodcocks.
A couple and a half of woodcocks.
A flight of woodcocks.
To flush a woodcock.
A couple of snipes.
A couple and a half of snipes.
A wisp of snipe.
To spring a snipe.
A team of wild ducks.
A gaggle or flock of geese.
A wing of plover.
A trip of dottrel.
A couple of pointers or setters.
A leash of pointers or setters
A couple of spaniels.
A couple and a half of spaniels.
A brace of hares.
A leash of hares.
To start or move a hare.

A pair—A couple—A brace.—A pair is two united by nature (*par*); a couple by an occasional chain (*copula*); and a brace, by a noose or tie. A pair of swans. A couple of hounds. A brace of partridges—a pair is male and female; a couple, two accidental companions; a brace, tied together by the sportsman. He keeps a pair of pheasants in the hen roost. We saw a couple of pheasants feeding on the bank. You shot a brace of partridges.

DUTY ON DOGS.

For every greyhound, kept by any person, whether his property or not, £1.—For every hound, pointer, setting dog, spaniel, lurcher, or terrier, the annual sum of 14*s*.—For every dog not being such as aforesaid, kept by any person, whether the same be kept for his own use, or the use of any other person, the annual sum of 8*s*.

But this duty is not to extend to dogs not six months old, the proof of which to lie on the owner.

Persons compounding for their hounds, to be charged £36.

PELLETS OF SHOT IN AN OUNCE.

Of	B. B.	One ounce	contains	59 pellets.
	B.	Do.	- -	67
No.	1	Do.	- -	85
	2	Do.	- -	112
	3	Do.	- -	135
	4	Do.	- -	187
	5	Do.	- -	228
	6	Do.	- -	261
	7	Do.	- -	304
	8	Do.	- -	640
	9	Do.	- -	930

WADDING.

Amongst other improvements introduced to the notice of the sportsman is "*Concave Felt Wadding*," which is good wadding, but not cheap.

If a good hat can be procured, free from the great surplus of size, and without the filth which often is found mixed with it,* I know of nothing better; and, by coating each side of the hat, (before punching your wadding) with a stout sheet of printing paper, pasted on and dried, it will be superior to any thing.—*De Berenger.*

Barren Pairs.—When the nest of a partridge happens to be destroyed late in the season, the old birds remain together, and are called a *barren pair.* However, it sometimes happens, that what are called a barren pair prove to be both cocks—the following appears to be the reason:—when, after pairing time, two cock birds happen to be left in the same district, after the animosity which accompanies genial desire has subsided, the two male birds associate and remain together, if undisturbed, until the following spring.—But barren pairs, whether male and female or otherwise never lie well, or in other words, are much more difficult to approach than a covey.

A dog's skin is not porous, and for that reason he never perspires; the excretions, whether from sickness or otherwise, make their way through the eyes, nose, and mouth. The dog's skin will not easily absorb mercurial nor any other ointment, though it will become sore from external application.

The fowling piece should always be discharged before entering the house; and the most adviseable method is not to draw the shot, as is the usual practise, but discharge it into the air, at a sufficient elevation to render mischief impossible. Thus any accident in drawing the shot is completely avoided.

Day's patent gun.—This, which is intended also for a sort of walking stick, may be regarded as a *bagatelle* no way calculated for the sportsman; at least, if I am to form an opinion from the only one which has fallen under my observation. Its discharge must be attended with excessive recoil, and but little effect.

* Which may be extracted by boiling.

FORM OF A SPORTSMAN'S JOURNAL.

WHERE KILLED.	WHEN.	BLACK GAME.	GROUSE.	PARTRIDGE.	PHEASANT.	WOODCOCK.	SNIPE.	DUCKS OR WILD FOWL.	HARE.	RABBIT.	TOTAL EACH DAY.	SHOTS MISSED.	REMARKS ON EACH DAY.
	MONDAY.												
	TUESDAY.												
	WEDNESD.												
	THURSDAY.												
	FRIDAY.							2					
	SATURDAY.							2					
	TOTAL EACH WEEK.												

GENERAL OBSERVATIONS.

RECEIPTS FOR MAKING BOOTS AND SHOES RESIST WATER.

One pint of linseed oil, half a pound of mutton suet, eight ounces of bees' wax, and one pennyworth of rosin: the whole to be boiled together, and warmed before using.

Another.—If the shoes are new, take half a pound of bees' wax, a quarter of a pound of rosin and one pound of tallow: to be boiled well together, and warmed before using.

Indian Rubber dissolved in spirits of turpentine, and spread over the boot or shoe previous to using the blacking is highly adviseable.

N. B. It is hardly necessary to mention that the shoes should be cleaned well from the dirt, and perfectly dry, before the application of either of these receipts.

Shoe-soles can have a layer of cork or waxed canvas introduced between.—This will be found a very excellent precaution.

Water-proof Composition.—If it be wished to render copper caps water-proof, a small portion of the following composition should be inserted in each, which will not prevent the ignition of the priming:—

Tallow - -	2 parts.
Hog's Lard -	1 do.
White Soap -	3 do.

OBSERVATIONS ON THE WEATHER.

Mists.—A white mist in the evening over a meadow with a river, will be drawn up by the sun next morning, and the day will be bright. Five or six fogs successively drawn up portend

rain. Where there are high hills, and the mist which hangs over the lower lands draws towards the hills in the morning, and rolls up to the top, it will be fair; but if the mist hangs upon the hills, and drags along the woods, there will be rain.

Clouds.—Against much rain, the clouds grow bigger, and increase very fast, especially before thunder. When the clouds are formed like fleeces, but dense in the middle, and bright toward the edges, with the sky bright, they are signs of a frost, with hail, snow, or rain. If clouds breed high in air, in thin white trains, like locks of wool, they portend wind, and probably rain. When a general cloudiness covers the sky, and small black fragments of clouds fly underneath, they are a sure sign of rain, and probably it will be lasting. Two currents of clouds always portend rain, and, in summer, thunder.

Dew.—If the dew lies plentifully on the grass after a fair day, it is a sign of another. If not, and there is no wind, rain must follow. A red evening portends fine weather; but if it spread too far upwards from the horizon in the evening, and especially morning, it fortels wind or rain, or both. When the sky in rainy weather is tinged with sea-green, the rain will increase; if with deep blue it will be showery.

Heavenly Bodies.—A haziness in the air which fades the sun's light, and makes the orb appear whitish, or ill defined; or at night, if the moon and stars grow dim, and a ring encircles the former, rain will follow. If the sun's rays appear like Moses's horn, if white at setting, or shorn of his rays, or goes down into a bank of clouds in the horizon, bad weather is to be expected. If the moon looks pale and dim, we expect rain; if red, wind; and if of her natural colour, with a clear sky, fair weather. If the moon is rainy throughout, it will clear at the change, and perhaps the rain return a few days after. If fair throughout, and rain at the change, the fair weather will probably return on the fourth or fifth day.

If the setting sun appears yellow or gold color, and particularly if accompanied with purple streaks, the following day will be fine.

Wind.—If the wind veers about, much rain is pretty sure. If in changing it follows the course of the sun, it brings fair weather; the contrary, foul. Whistling or howling of the wind, a sure sign of rain.

Meteors.—The Aurora Borealis, after warm days, is generally succeeded by cooler air. Shooting stars are supposed to indicate wind.

Animals.—Before rain, swallows fly low; dogs grow sleepy, and eat grass; water-fowl dive much; fish will not bite; flies are more troublesome; toads crawl about; moles, ants, bees, and many insects are very busy; birds fly low for insects; swine, sheep, and cattle are uneasy, and even the human body.

When there has been no particular storm about the time of the spring equinox, (March 21) if a storm arise from the east on or before that day, or if a storm from any point of the compass arise near a week after the equinox, then, in either of these cases, the succeeding summer is generally dry, four times in five.

But if a storm arise from the S. W. or W. S. W. on or just before the spring equinox, then the summer following is generally wet five times in six.

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